SPECIAL PROVISIONS
&
SUPPLEMENTAL SPECIFICATIONS

CSI-Inch/Pound

Project No:	***NH-STP-0201(8)0**
Name:	**SR-201; I-80 TO SR-202**
	ROAD, ASPHALT PAVEMENT REHABILITATION
County:	**SALT LAKE**
Bid Opening:	**November 01, 2005**
	Date

2005 - U.S. Standard Units (Inch-Pound Units) September 12, 2005

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17. 02721M Untreated Base Course (UTBC)
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I. 2005 Standard Specifications

The State of Utah Standard Specifications for Road and Bridge Construction, U.S. Standard Units (Inch Pound Units), Edition of 2005 applies on this project as a static Specification Book as well as all other applicable specification changes.

Refer to Part XIII (Special Provisions and Supplemental Specifications) for other project specific specifications.

II. List of Revised Standard Drawings

Change One

Revised February 24, 2005

AT 1	Legend Sheet	02/24/2005
AT 2	Ramp Meter Details	02/24/2005
AT 3	Ramp Meter Sign Panel	02/24/2005
AT 5	Ramp Meter Loop Installation	02/24/2005
AT 6	Conduit Details	02/24/2005
AT 7	Polymer-Concrete Junction Box Details	02/24/2005
AT 8	ATMS Cabinet	02/24/2005
AT 9	ATMS Cabinet Disconnect And Transformer Frame	02/24/2005
AT 10	CCTV Mounting Details	02/24/2005
AT 11	CCTV Pole Details	02/24/2005
AT 12	CCTV Pole Foundation For Dedicated CCTV Pole	02/24/2005
AT 13	Deleted	N/A
AT 14	Weigh In Motion Piezo Details	02/24/2005
AT 15	RWIS Site And Foundation Details	02/24/2005
AT 16	RWIS Tower Base And Service Pad Layout	02/24/2005
AT 17	Ground Rod Installation And Tower Grounding	02/24/2005
AT 18	TMS Detection Zone Layout	02/24/2005
BA 3	Deleted	N/A
BA 3A	Cast In Place Constant Slope Barrier	02/24/2005
BA 3B	Precast Concrete Constant Slope Transition Section For Crash Cushion And W-Beam Guardrail	02/24/2005
BA 4B	W-Beam Guardrail Transition	02/24/2005
BA 4C	W-Beam Guardrail Transition Curb Section	02/24/2005
CC 7	Deleted	N/A
CC 7A	Grading And Installation Details Crash Cushion Type F Quad Trend 350	02/24/2005
CC 7B	Reserved For Future Use	N/A
CC 8	Deleted	N/A
CC 8A	Grading And Installation Details Crash Cushion Type G	02/24/2005
CC 8B	Grading And Installation Details For “3R” Projects Crash Cushion Type G	02/24/2005
CC 9A	Grading And Installation Details Crash Cushion Type H	02/24/2005
CC 9B	Grading And Installation Details Crash Cushion Type H (Parabolic Flare)	02/24/2005
DD 4	Geometric Design for Freeways (Roadway)	02/24/2005
FG 3	Swing Gates Type I For Gates Less Than 17’	02/24/2005
ST 5	Painted Median And Auxiliary Lane Details	02/24/2005

Change Two

Revised April 28, 2005

AT 4	Typical Ramp Meter Signal Head Mounting	04/28/2005
CB 1	Curb and Gutter Inlet	04/28/2005
CB 2	Open Curb Inlet	04/28/2005
CB 3	Shallow Catch Basin	04/28/2005
CC 8A	Grading And Installation Details Crash Cushion Type G	04/28/2005
CC 8B	Grading And Installation Details For “3R” Projects Crash Cushion Type G	04/28/2005
CC 9A	Grading And Installation Details Crash Cushion Type H	04/28/2005
CC 9B	Grading And Installation Details Crash Cushion Type H (Parabolic Flare)	04/28/2005
DD 4	Geometric Design for Freeways (Roadway)	04/28/2005
FG 4	Deleted	N/A
FG 4A	Deer Crossing Details	04/28/2005
FG 4B	Deer Ramp Details	04/28/2005
SL 12	Traffic Counting Loop Detector Details	04/28/2005
SL 13	Video Detection Camera Mount	04/28/2005
SN 8	Ground Mounted Timber Sign Post (P1)	04/28/2005
SN 11	Slipbase Ground Mounted Tubular Steel Sign Post (P4)	04/28/2005

Change Three

Revised June 30, 2005

CB 5A	Standard Catch Basin and Cleanout Box	06/30/2005
GW 5A	Pedestrian Access	06/30/2005
GW 5B	Pedestrian Access	06/30/2005
GW 5C	Pedestrian Access	06/30/2005

Change Four

Revised August 25, 2005

BA 1B	Precast Concrete Full Barrier Standard Section	08/25/2005
BA 3B	Precast Concrete Constant Slope Transition Section	08/25/0205
	For Crash Cushion And W-Beam Guardrail	08/25/0205
BA 4B	W-Beam Guardrail Transition	08/25/2005
CC 7B	Crash Cushion Type F BEAT-SSCC	08/25/2005
DG 1	Fill Height for Metal Pipe (Steel)	08/25/2005
EN 1	Temporary Erosion Control (Check Dams)	08/25/2005
EN 2	Temporary Erosion Control (Silt Fence)	08/25/2005
EN 3	Temporary Erosion Control (Slope Drain And Temporary Berm)	08/25/2005
EN 4	Temporary Erosion Control (Drop Inlet Barriers)	08/25/2005
EN 5	Temporary Erosion Control (Pipe Inlet And Curb Inlet Barriers)	08/25/2005
EN 6	Temporary Erosion Control (Sediment Trap and Stabilized Construction Entrance)	
EN 7	Temporary Erosion Control (Straw Bale Barrier)	08/25/2005
SL 14	Highway Luminaire Pole Ground Mount	08/25/2005
SL 15	Luminaire Slip Base Details	08/25/2005
SN 12A	Ground Mounted Sign Installation Details	08/25/2005

III. Materials Minimum Sampling and Testing

Follow the requirements of the Current Materials Minimum Sampling and Testing Manual:

Materials Minimum Sampling and Testing Manual reference can be found from the UDOT Web Site at:
http://www.udot.utah.gov/index.php/m=c/tid=645

NOTICE TO CONTRACTORS

Sealed proposals will be received by the Utah Department of Transportation UDOT/DPS Building (4th Floor), 4501 South 2700 West, Salt Lake City, Utah. 84114-8220, until 2 o'clock p.m. Tuesday, November 01, 2005, and at that time the download process of bids from the USERTrust Vault to UDOT will begin, with the public opening of bids scheduled at 2:30 for ROAD, ASPHALT PAVEMENT REHABILITATION of SR-201; I-80 TO SR-202 in SALT LAKE County, the same being identified as Federal Aid Project No: *NH-STP-0201(8)0.

Federal Regulations:
In conformity with the Federal-Aid Highway Act of 1968, the U.S. Department of Labor has certified the minimum wage rates to be paid on this contract. These rates are made a part of the contract documents. This Department has been advised by the Wage and Hour Division, U.S. Department of Labor, that contractors engaged in highway construction work are required to meet the provisions of the Fair Labor Standards Act of 1938, (52 Stat. 1060). This contract is subject to all appropriate Federal Laws, including Title VI of the Civil Rights Act of 1964.

Project Location: 3.885 Miles of Route: 0201 from R.P. 0.406 to R.P. 4.291

The principal items of work are as follows (for all items of work see attachment):
HMA - 3/4 inch
Granular Borrow
Borrow

The project is to be completed: in 60 Working Days.

Other Requirements:
All project bidding information, including Specifications and Plans, can be viewed, downloaded, and printed from UDOT's Project Development Construction Bid Opening Information website, http://www.udot.utah.gov/index.php/m=c/tid=319. To bid on UDOT projects, bidders must use UDOT's Electronic Bid System (EBS). The EBS software and EBS training schedules are also available on this website.

Project information can also be reviewed at the main office in Salt Lake City, its Region offices, and its District offices in Price, Richfield, and Cedar City.

Project Plans cannot be downloaded or printed from the website unless your company is registered with UDOT. Go to UDOT's website to register. Unregistered companies may obtain a **CD**, that contains the Specifications and Plans, from the main office, 4501 South 2700 West, Salt Lake City, (801) 965-4346, for a fee of $20.00, plus tax and mail charge, if applicable, none of which will be refunded.

Prequalification of bidders is required. Prior to submitting a bid, the bidder must have on file with the Utah Department of Transportation a completed and approved contractor's application for prequalification. Department processing time is 10 working days from receipt of properly executed documentation.

As required, a contractor's license must be obtained from the Utah Department of Commerce.

Each bidder must submit an electronic bid bond from an approved surety company using UDOT's Electronic Bid System (EBS); or in lieu thereof, cash, certified check, or cashier's check for not less than 5% of the total amount of the bid, made payable to the Utah Department of Transportation, showing evidence of good faith and a guarantee that if awarded the contract, the bidder will execute the contract and furnish the contract bonds as required.

The right to reject any or all bids is reserved.

If you need an accommodation under the Americans with Disabilities Act, contact the Construction Division at (801) 965-4346. Please allow three working days.

Additional information may be secured at the office of the Utah Department of Transportation, (801) 965-4346.

Dated this 08th day of October, 2005.

UTAH DEPARTMENT OF TRANSPORTATION
John R. Njord, Director

Revised Date:

Utah Department of Transportation
Bidder's Schedule

Bid Opening Date: 11/1/2005
Region: REGION 2
Project Number: *NH-STP-0201(8)0
County: SALT LAKE
Project Name: SR-201; I-80 TO SR-202
Concept: ROAD, ASPHALT PAVEMENT REHABILITATION
Funding: FEDERAL
Bid Items Version#: 1
DBE Goal: 8.00%

10 - ROADWAY

#	Item	Description	Quantity	Unit
1	012850010	Mobilization	1	lump sum
2	013150010	Public Information Services	1	lump sum
3	015540005	Traffic Control	1	lump sum
4	01557000*	Maintenance of Traffic	1	lump sum
5	015610010	Temporary Environmental Fence	2557	foot
6	015710020	Check Dam (Stone)	12	cubic yard
7	015710030	Silt Fence	19378	foot
8	015720020	Dust Control and Watering	2102	1000 gallons
9	015740010	Environmental Control Supervisor	1	lump sum
10	018920010	Reconstruct Catch Basin	3	each
11	018920040	Reconstruct Valve Box	2	each
12	018920050	Reconstruct Manhole	4	each
13	02056001*	Borrow	36323	ton
14	020560020	Granular Borrow	30808	ton
15	020750010	Geotextiles - Separation	26281	square yard
16	022210075	Remove Guardrail	2617	foot
17	022210095	Remove Pipe Culvert	706	foot
18	022210140	Remove Raised Island	3901	square yard
19	02221017*	Remove and Salvage Crash Cushion	2	each
20	02221018*	Remove Concrete Barrier	2074	foot
21	022310010	Clearing and Grubbing	1	lump sum
22	023160020	Roadway Excavation (Plan Quantity)	32341	cubic yard
23	023760010	Erosion Control Blanket	2024	square yard
24	02610426*	18 inch Reinforced Concrete Pipe Culvert, Class C	689	foot
25	02610428*	24 inch Reinforced Concrete Pipe Culvert, Class C	909	foot
26	026130030	Culvert End Section 18 inch	12	each
27	026130040	Culvert End Section 24 inch	14	each
28	02721007*	Untreated Base Course 3/4 inch or 1 inch Max	13452	ton
29	02723000*	Shoulder Grading	10792	foot
30	02724000*	Gravel Driveway	5	each
31	02741005P	HMA - 1/2 inch	864	ton
32	02741006P	HMA - 3/4 inch	43318	ton
33	027490010	Asphalt Concrete Driveway	5	each
34	027610020	Longitudinal Rumble Strip	50377	foot
35	027680005	4 inch Pavement Marking Tape - White	42646	foot
36	027680010	8 inch Pavement Marking Tape - White	8958	foot
37	027680015	4 inch Pavement Marking Tape - Yellow	64466	foot
38	027680020	8 inch Pavement Marking Tape - Yellow	1342	foot
39	027680025	Pavement Message (Tape)	59	each
40	02786001P	Open Graded Surface Course	7438	ton
41	027860050	Asphalt Cement PG 64-28	465	ton
42	028410030	W-Beam Guardrail Transition Element	5	each
43	028410056	W-Beam Guardrail Curved	40	foot

Note: Item numbers ending with "" or "P" identify a change to the Standard Specification, Supplemental Specifications or Measurement and payment. Read all related documents carefully.

Utah Department of Transportation
Bidder's Schedule

Bid Opening Date: 11/1/2005
Project Number: *NH-STP-0201(8)0
Project Name: SR-201; I-80 TO SR-202
Concept: ROAD, ASPHALT PAVEMENT REHABILITATION
Funding: FEDERAL
Bid Items Version#: 1
DBE Goal:

Region: REGION 2
County: SALT LAKE

#	Item	Description	Quantity	Unit
10 - ROADWAY				
44	028410086	W-Beam Guardrail 72 inch Wood Post	5244	foot
45	028410087	W-Beam Guardrail 84 inch Wood Post	275	foot
46	028410090	W-Beam Guardrail Anchor Type 1	7	each
47	028420010	Delineator Type I	108	each
48	028420030	Delineator - Culvert Marker	23	each
49	028430010	Crash Cushion Type B	4	each
50	028430035	Crash Cushion Type G	4	each
51	028430040	Crash Cushion Type H	3	each
52	028440010	Precast Concrete Full Barrier (New Jersey Shape)	2700	foot
53	02844003*	Cast-in-Place Constant Slope Barrier	6834	foot
54	028440040	Cast-in-Place Constant Slope Barrier Approach End (A) 12 Feet	4	each
55	028440080	Precast Concrete Barrier Terminal (New Jersey Shape)	3	each
56	028910020	Auxiliary Sign, Type A-I	34	square foot
57	028910028	Sign Type A-1, 12 Inch X 36 Inch	1	each
58	028910037	Sign Type A-1, 24 inch x 24 inch	1	each
59	028910050	Sign Type A-I, 24 inch X 30 inch	1	each
60	028910065	Sign Type A-I, 36 inch X 36 inch	16	each
61	02891006P	Sign Type A-I, 30 inch X 36 inch	4	each
62	028910075	Auxiliary Sign Type A-2	2	square foot
63	02891007P	Sign Type A-I, 36 inch X 48 inch	8	each
64	028910095	Sign Type A-2, 24 inch X 12 inch	9	each
65	028910097	Sign Type A-2, 24 inch x 24 inch	1	each
66	028910115	Sign Type A-2, 30 inch X 30 inch	2	each
67	028910120	Sign Type A-2, 36 inch X 36 inch	1	each
68	028910255	Sign Foundation	55	each
69	028910270	Remove Sign Less Than 20 Square Feet	44	each
70	028910290	Relocate Sign Greater Than or Equal to 20 Square Feet	6	each
71	029110010	Wood Fiber Mulch	10	acre
72	029120010	Contractor Furnished Topsoil	51161	square yard
73	029220010	Drill Seed	10	acre
74	029220040	Broadcast Seed	18	1000 square fee
75	02961006*	Rotomilling - 5 Inch	116012	square yard
20 - STRUCTURES				
76	022250010	Asphalt Surfacing Removal (Structures)	520	square yard
77	039240060	Wingwall Repair	4	each
78	039340010	Pothole Patching	235	square foot
79	07105001*	Waterproofing Membrane	5360	square foot

Note: Item numbers ending with "" or "P" identify a change to the Standard Specification, Supplemental Specifications or Measurement and payment. Read all related documents carefully.

Measurement and Payment

The Department will measure and pay for each bid item as detailed in this section. Payment is contingent upon acceptance by the Department.

Items are listed by Specification and in tables as follows:

Item #	Bid Item Number	Bid Item Name	Unit of Measurement and Payment
Additional information goes here.			

1	**012850010**	**Mobilization**	**Lump sum**
	Payment	**Amount Paid**	**When Paid**
	First	The lesser of 25% of Mobilization or 2.5% of contract	With first estimate
	Second	The lesser of 25% of Mobilization or 2.5% of contract	With estimate following completion of 5% of contract
	Third	The lesser of 25% of Mobilization or 2.5% of contract	With estimate following completion of 10% of contract
	Fourth	The lesser of 25% of Mobilization or 2.5% of contract	With estimate following completion of 20% of contract
	Final	Amount bid in excess of 10% of contract price.	Project Acceptance-Final

2	**013150010**	**Public Information Services**	**Lump Sum**
	Payment	**Amount Paid**	**When Paid**
	First	25% of bid item amount	With first estimate
	Second	Remaining portion of bid item paid as a percentage of the contract completed	With each estimate

3	**015540005**	**Traffic Control**	**Lump Sum**
	Payment	**Amount Paid**	**When Paid**
	First	25% of the bid item amount	With first estimate
	Second	Remaining portion of bid item paid as a percentage of the contract completed	With each estimate

4	**01557000***	**Maintenance of Traffic**	**Lump Sum**

A. Partial Payments - Based on the percentage of the project completed, excluding the cost of MOT.

1. Failure to comply with any of the requirements of this special provision will result in non-compliance.

B. Price Adjustments:

1. The Department reduces payment if the MOT implemented is not in compliance with the approved MOT plan, as determined by the ENGINEER.
2. The amount per day by which the CONTRACTOR's compensation will be reduced is calculated using the daily charge in the Schedule of Liquidated Damages in Table 1 of Section 00555 or the Contract lump sum bid price for MOT divided by the number of Contract days, whichever is greater.

C. Payment for change in scope: Negotiate a price adjustment for MOT if the ENGINEER orders a change in the scope of work which requires modification to the approved MOT Plan.

5	**015610010**	**Temporary Environmental Fence**	**Feet**
In place			

6	**015710020**	**Check Dam (Stone)**	**Cubic yard**
In place, per structure			

7	**015710030**	**Silt Fence**	**Feet**
In place			

8	**015720020**	**Dust Control and Watering**	**1000 Gallon**

9	**015740010**	**Environmental Control Supervisor**	**Lump Sum**
	Payment	**Amount Paid**	**When Paid**
	First	25% of the bid item amount	With first estimate
	Second	Remaining portion of bid item paid as a percentage of the contract completed	With each estimate

10	**018920010**	**Reconstruct Catch Basin**	**Each**
In place			

11	**018920040**	**Reconstruct Valve Box**	**Each**
In place			

12	**018920050**	**Reconstruct Manhole**	**Each**
In place			

13	**02056001***	**Borrow**	**Ton**
In Place			

14	**020560020**	**Granular Borrow**	**Ton**

15	**020750010**	**Geotextiles - Separation**	**Square yard**
In place, Department will not pay for overlaps.			

16	**022210075**	**Remove Guardrail**	**Feet**
Includes posts, crash cushions, transition elements, and anchorages			

17	**022210095**	**Remove Pipe Culvert**	**Feet**

18	**022210140**	**Remove Raised Island**	**Square yard**

19	**02221017***	**Remove and Salvage Crash Cushion**	**Each**

20	**02221018***	**Remove Concrete Barrier**	**Feet**

21	**022310010**	**Clearing and Grubbing**	**Lump sum**

22	**023160020**	**Roadway Excavation (Plan Quantity)**	**Cubic yard**
Includes removal of pipe culverts under driveways and includes removal of gas pipe markers. Includes removal of any HMA not included in Rotomilling.			

23	**023760010**	**Erosion Control Blanket**	**Square yard**
In place, do not measure overlaps			

24	**02610426***	**18 inch Reinforced Concrete Pipe Culvert, Class C**	**Feet**
Measured along the centerline of barrel in place. Includes all materials including granular borrow or granular backfill borrow.			

25	**02610428***	**24 inch Reinforced Concrete Pipe Culvert, Class C**	**Feet**
Measured along the centerline of barrel in place. Includes all materials including granular borrow or granular backfill borrow.			

26	026130030	Culvert End Section 18 inch	Each
In place			

27	026130040	Culvert End Section 24 inch	Each
In place			

28	02721007*	Untreated Base Course ¾ inch or 1 inch Max	Ton
In place			

29	02723000*	Shoulder Grading	Feet
Untreated Base Course will be paid separately under the Untreated Base Course ¾ inch or 1 inch Max item.			

30	02724000*	Gravel Driveway	Each
Includes all materials			

31	02741005P	HMA - 1/2 inch	Ton
Includes aggregates, asphalt binder, hydrated lime, tack coat, other additives, etc. The Department will not pay separately for asphalt binder, hydrated lime, tack coat, additives, etc.			

32	02741006P	HMA – ¾ inch	Ton
Includes aggregates, asphalt binder, hydrated lime, tack coat, other additives, etc. The Department will not pay separately for asphalt binder, hydrated lime, tack coat, additives, etc.			

33	027490010	Asphalt Concrete Driveway	Each
The Department pays for base courses and HMA under the appropriate sections.			

34	027610020	Longitudinal Rumble Strip	Feet
Measured along the edge of the shoulder, or in the median, including gaps.			

35	027680005	4 inch Pavement Marking Tape – White	Feet
A.	Do not measure the gap in the broken line.		
B.	Include all costs for the Manufacturer's Service Representative and other technical assistance in the contract unit price.		

36	027680010	8 inch Pavement Marking Tape – White	Feet
A.	Do not measure the gap in the broken line.		
B.	Include all costs for the Manufacturer's Service Representative and other technical assistance in the contract unit price.		
C.	Use 8" wide tape (do not use 2 – 4" wide pieces of tape)		

37	027680015	4 inch Pavement Marking Tape - Yellow	Feet
A. Do not measure the gap in the broken line. B. Include all costs for the Manufacturer's Service Representative and other technical assistance in the contract unit price.			

38	027680020	8 inch Pavement Marking Tape - Yellow	Feet
A. Do not measure the gap in the broken line. B. Include all costs for the Manufacturer's Service Representative and other technical assistance in the contract unit price. C. Use 8" wide tape (do not use 2 – 4" wide pieces of tape)			

39	027680025	Pavement Message (Tape)	Each
Measurement - Painted Pavement Messages: A. Letter = one message. B. Arrow = one message. C. Multi-headed arrow = one message per arrow. D. School crossbars = one message per 24 inch x 10 ft bar. E. Crosswalk = two message per lane and two messages per shoulder. F. Stop Bar = one message per lane and one message per shoulder. G. Railroad crossing markings = seven messages per lane. 1. 'R' = one message each (two required). 2. 'X' = two messages. 3. Transverse Bar = one message each (two required). 4. Stop Bar = one message. H. Include all costs for the Manufacturer's Service Representative and other technical assistance in the contract unit price.			

40	02786001P	Open Graded Surface Course	Ton
In Place. Include aggregates, tack coat and all additives including hydrated lime. Asphalt Binder measured and paid for separately.			

41	027860050	Asphalt Cement PG 64-28	Ton

42	028410030	W-Beam Guardrail Transition Element	Each
In place, includes guardrail with posts, blocks, hardware, curb section, and barrier reflectors. Use same post type as designated in project typical installation.			

43	028410056	W-Beam Guardrail Curved	Feet
In place, includes shop bent rail elements, CRT posts and blocks with banding, anchor system, specialty bolt hardware, and barrier reflectors.			

44	028410086	W-Beam Guardrail 72 inch Wood Post	Feet
In place, includes standard W-beam guardrail, post, blocks, and barrier reflectors.			

45	028410087	W-Beam Guardrail 84 inch Wood Post	Feet
In place, includes standard W-beam guardrail, post, blocks, and barrier reflectors.			

46	**028410090**	**W-Beam Guardrail Anchor Type 1**	**Each**
In place. Includes 12½ ft rail element, end section, one standard wood post, one shortened wood post with foundation tube, and hardware.			

47	**028420010**	**Delineator Type I**	**Each**
In place			

48	**028420030**	**Delineator - Culvert Marker**	**Each**
In place			

49	**028430010**	**Crash Cushion Type B**	**Each**
In place, includes all Crash Cushion Markings – Marker Posts and Plates, Object Markers, and all mounting hardware.			

50	**028430035**	**Crash Cushion Type G**	**Each**
In place, includes all Crash Cushion Markings – Marker Posts and Plates, Object Markers, and all mounting hardware.			

51	**028430040**	**Crash Cushion Type H**	**Each**
In place, includes all Crash Cushion Markings – Marker Posts and Plates, Object Markers, and all mounting hardware.			

52	**028440010**	**Precast Concrete Full Barrier (New Jersey Shape)**	**Feet**
In place, includes connection, pins, stabilization pins, and barrier reflectors.			

53	**02844003***	**Cast-in-Place Constant Slope Barrier**	**Feet**
In place, includes barrier reflectors, scuppers and breaking barrier at the joints in structures as shown on the structure plans.			

54	**028440040**	**Cast-in-Place Constant Slope Barrier Approach End (A) 12 feet**	**Each**
In place, includes barrier reflectors			

55	**028440080**	**Precast Concrete Barrier Terminal (New Jersey Shape)**	**Each**
In place			

56	**028910020**	**Auxiliary Sign, Type A-1**	**Square feet**
In place			

57	**028910028**	**Sign Type A-1, 12 inch X 36 inch**	**Each**
In place			

58	**028910037**	**Sign Type A-1, 24 inch X 24 inch**	**Each**
In place			

59	**028910050**	**Sign Type A-1, 24 inch X 30 inch**	**Each**
In place			

60	**028910065**	**Sign Type A-1, 36 inch X 36 inch**	**Each**
In place			

61	**02891006P**	**Sign Type A-1, 30 inch X 36 inch**	**Each**
In place			

62	**028910075**	**Auxiliary Sign Type A-2**	**Square Feet**
In place			

63	**02891007P**	**Sign Type A-1, 36 inch X 48 inch**	**Each**
In Place			

64	**028910095**	**Sign Type A-2, 24 inch X 12 inch**	**Each**
In Place			

65	**028910097**	**Sign Type A-2, 24 inch X 24 inch**	**Each**
In place			

66	**028910115**	**Sign Type A-2, 30 inch X 30 inch**	**Each**
In place			

67	**028910120**	**Sign Type A-2, 36 inch X 36 inch**	**Each**
In place			

68	**028910255**	**Sign Foundation**	**Each**
In place			

69	**028910270**	**Remove Sign Less Than 20 Square Feet**	**Each**

70	**028910290**	**Relocate Sign Greater Than or Equal to 20 Square Feet**	**Each**
Includes removal and disposal of existing concrete sign base. Includes Post (P4)			

71	**029110010**	**Wood Fiber Mulch**	**Acre**

72	**029120010**	**Contractor Furnished Topsoil**	**Square Yard**
In place			

73	**029220010**	**Drill Seed**	**Acre**
In place			

74	**029220040**	**Broadcast Seed**	**1000 Square Feet**
In place			

75	**02961006***	**Rotomilling - 5 inch**	**Square Yard**

76	**022250010**	**Asphalt Surfacing Removal (Structures)**	**Square Yard**

77	**039240060**	**Wingwall Repair**	**Each**

78	**039340010**	**Pothole Patching**	**Square Feet**
Estimated plan quantities are based on preliminary field review for bidding purposes only. Repair the actual quantities determined by the Engineer. Pothole patching may be reduced, deleted, or increased over the bid quantities from the contract. If any of these situations occur, the price of the actual quantity will be paid for at the contract unit price. Department will not allow additional compensation for repairing blow throughs, or for removing and repairing failed patches.			

79	**07105001***	**Waterproofing Membrane**	**Square Feet**

VII. Use of Minority or Women Owned Banks

SPECIAL PROVISION

In the spirit of Federal Department of Transportation regulations the Utah Department of Transportation encourages all contractors and suppliers to thoroughly investigate the services offered by banks controlled and/or owned by minorities or women and to utilize their services as deemed feasible.

VIII. Bid Conditions
DISADVANTAGED BUSINESS ENTERPRISE (DBE)

POLICY

"Policy Statement"

It is the policy of the DEPARTMENT to take all necessary and reasonable actions to ensure that DBEs as defined herein shall have equal opportunity to participate in the performance of contracts financed in whole or in part with US Department of Transportation (DOT) funds under this agreement as modified herein.

"Objectives"

The objectives of this policy are to:

1. Ensure nondiscrimination in the award and administration of DOT assisted contracts;

2. Create a level playing field on which DBEs can compete fairly for DOT assisted contracts;

3. Ensure that the DBE program is narrowly tailored in accordance with applicable law;

4. Ensure that only firms that fully meet *49 CFR 26* eligibility standards are permitted to participate as DBEs;

5. Remove barriers to the participation of DBEs in Federal aid contracts;

6. Assist the development of firms that can compete successfully in the marketplace outside the DBE program; and

7. Provide appropriate flexibility in establishing and providing opportunities for DBEs.

"Responsibilities"

Implementation of the DBE Program is accorded the same priority as compliance with all other legal obligations incurred by the DEPARTMENT in financial assistance agreements with DOT.

1. The Civil Rights Manager shall be the DBE liaison officer, who shall have direct, independent access to the Executive Director concerning DBE program matters. The Civil Rights manager shall be responsible for implementing all aspects of the DBE program. Adequate staff will be assigned to administer the DBE program.

2. The ENGINEER is responsible for supervision of the DBE participation covered by the Contract.

DBE BID AND PERFORMANCE CONDITIONS

"Obligations"

The contractor, subcontractor, service provider, or supplier at any lower tier shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the DEPARTMENT deems appropriate.

"Assurances"

Each contract between the DEPARTMENT and the Contractor and each subcontract at any lower tier must include the following assurance:

> The contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the DEPARTMENT deems appropriate.

A. CONTRACT GOAL

1. The DEPARTMENT has determined that one or more can reasonably be expected to compete for the work contained in the proposal for this project. It is, therefore, the goal of the DEPARTMENT that DBE firms shall have an affirmative action opportunity to contract for the following percentage of work under this contract:

   a. If the indicated DBE percent of the *CONTRACT DBE GOAL* is greater than 0.0 percent, complete Part A of the DBE BID ASSURANCE. Refer to Bidding Requirements, Section D, Subsection 1,a, of this Special Provision. (The commitment dollar amount up to the amount of the assigned goal is Race Conscious DBE participation. Any commitment dollar amount in excess of the assigned goal is Race Neutral Participation.)

b. If the indicated DBE percent of the *CONTRACT DBE GOAL* is 0.0 percent complete Part B of the DBE BID ASSURANCE. Refer to Bidding Requirements, Section D, Subsection 1,b, of this Special Provision. (Any commitment to a DBE is Race Neutral Participation.)

CONTRACT DBE GOAL: 8 Percent

2. GOALS

a. GOAL FOR BID EVALUATION

The above entered DBE percentage is a goal for bid evaluation to determine responsiveness of the proposal as it relates to this specification. Percentages for bidding purposes shall be calculated using dollar values and quantities as shown in proposals received for this project. Bidders shall compute the percentage of their DBE commitment by dividing the dollar amount of subcontract work that is being committed to certified DBE firms by the total dollar amount of the proposal. This will be the percentage of their DBE commitment to be used by the Electronic Bidding System (EBS) software.

b. RACE CONSCIOUS GOAL

DBE participation on projects that are assigned a Goal for Bid Evaluation that is greater than 0.0 percent is *race conscious* and the DBE commitment becomes a contract specification upon award. The Bidder must submit with its Bid Proposal a *DBE Commitment,* prepared within the EBS software, that indicates:

(1) Name of DBE firm
(2) Work items to be performed
(3) Total dollar amount of commitment

If the DBE commitment does not meet or exceed the assigned goal, the Bidder must submit with the Bid Proposal documentation of good faith efforts.

c. RACE NEUTRAL GOAL

DBE participation on projects that are assigned 0.0 percent Goal for Bid Evaluation is *race neutral* and does not become a contract specification upon award. The Bidder must take equal opportunity action to allow DBEs to compete for and perform on subcontracts. Only work classifications that the Bidder will subcontract need to be considered in evaluating equal opportunity action in the bid preparation. Contacts that have been made with DBE firms regarding potential work to be subcontracted and the results of such contacts are to be submitted with the EBS prepared Bid Proposal in *Race Neutral DBE Documentation* which contains:

(1) The work classifications that will be subcontracted.
(2) DBE firms contacted.
(3) Result of contact
(4) Name of anticipated DBE subcontractor(s)
(5) Anticipated work items to be performed by DBEs.
(6) Anticipated dollar amount of subcontract(s).

NOTE: In the EBS (Electronic Bidding System):
Use the Quote Comparison to document item (1).
Use the DBE Contact Log to document items (2) and (3).
Use the DBE Commitment to document items (4), (5), and (6).

The *Race Neutral DBE Documentation* is required to document equal opportunity action and to assist UDOT with DBE reporting and DBE goal setting. Use the EBS functions in above NOTE as the Race Neutral DBE Documentation.

d. GOAL FOR CONTRACT PERFORMANCE

The Bidder's *DBE Commitment* becomes an attachment to the Bid Proposal and is a condition of award, and thereby becomes a contract specification. Upon award, this Race Conscious DBE Commitment also becomes the minimum goal for contract performance.

Commitments to DBEs that exceed the Goal for Bid Evaluation will be considered as both race conscious and race neutral. The dollar amount of the Goal for Bid Evaluation will be considered to be race conscious participation. Any dollar amounts in excess of the Goal for Bid Evaluation will be considered as race neutral participation.

It is the intent of this Special Provision that the DBE Firm(s) listed for *race conscious* participation, as a minimum level of participation, will perform to the extent indicated in the Bidder's DBE Commitment. The minimum level of DBE participation includes:

(1) Indicated DBE firm(s),
(2) Indicated work item(s) (bid items),
(3) Indicated total dollar amounts.

Listed bid items shall be considered to be committed in their entirety unless Bidders designate otherwise in their DBE Commitment. If the DBE will perform only a part of the bid item, i.e., haul only, the Bidder must indicate what part the DBE will perform (Partial Performance). If the DBE will perform only a part of the quantity of the bid item, the Bidder must indicate the estimated quantity of the work to be performed by the DBE (Partial Quantity).

Substitutions of DBE subcontractor(s), work item(s), or decreases of total dollar amount(s) as indicated in the Bidder's DBE Commitment will not be allowed without prior submission of written justification to the ENGINEER and approval of the ENGINEER and the Civil Rights Manager.

After award of a contract, substitutions will not be allowed without prior submission of a written “hold harmless” statement from the DBE.

Any change by the Contractor in the DBE Commitment requires that the change is approved by a Change Order.

Substitution of race neutral participation in excess of the Goal for Bid Evaluation requires equal opportunity efforts to substitute with other DBE participation.

DEPARTMENT generated decreases due to quantity changes in individual bid items do not require prior approval of the Civil Rights Manager—but must be fully justified by the ENGINEER at the conclusion of the project in the Explanation of Overruns and Under-runs Statement. The ENGINEER'S justification shall show the total estimated quantity, the final pay quantity as shown on the final estimate invoice, the quantity of the under-run, and the percent of under-run of the individual item. The explanation for the under-run shall include the reasons for the under-run and shall include as much detail as possible.

e. GOAL FOR FINAL COMPLIANCE

Percentages for final compliance shall be based on actual payments to DBEs. Over-runs and under-runs in individual contact items may require adjustments in the predetermined DBE percentage for a project if those items were not related to DBE performance. "The predetermined percentage for a project" refers to the percentage of the Contractor's DBE Commitment that becomes a contract specification upon award.

B. DEFINITIONS

For the purpose of this Special Provision, the following terms are defined:

1. Contract means a legally binding relationship obligating a seller to furnish supplies or services including but not limited to, construction and professional services) and the buyer to pay for them.
2. Contractor means one who participates, through a contract or subcontract (at any tier).

3. Disadvantaged Business Enterprise or DBE means a for profit small business concern.

   a. That has been certified to DBE status by the UUCP.

   b. That is at least 51 per cent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 per cent of the stock of which is owned by one or more such individuals; and

   c. Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

   d. Whose size is limited to average annual gross receipts of $17,425,000 over the previous three fiscal years. The Secretary of Transportation may adjust this amount from time to time for inflation.

OR

Whose size is limited to the current SBA Business size standard(s) found in 23 CFR part 121 appropriate to the type(s) of work the firm seeks to perform in DOT-assisted contracts.

4. DBE Goals mean:

   a. UDOT's annual overall goal on DOT-assisted projects for Federal fiscal year

   b. 2005 is 8.9 percent. 3.9 percent of the overall goal is a race neutral goal and reflects the level of DBE participation that would be expected absent the effects of discrimination. There is an implied DBE goal on projects with no goals (0.0 percent) that have subcontracting opportunities. The implied goal is the percent achievable by equal opportunity efforts.

   c. 5.0 percent of the goal is a race conscious goal and reflects the level of DBE participation that will be achieved in response to assigned DBE goals.

5. DBE Joint Venture means an association of a DBE firm and one or more other firms to carry out a single, for profit business enterprise, for which the parties combine their property, capital, efforts, skills, and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture to a degree commensurate with its ownership interest.

   The DEPARTMENT's Civil Rights Office prior to bid opening must approve a DBE joint venture in order to be utilized for the satisfaction of contract DBE goals. A DBE Joint Venture application must be submitted allowing ample lead-time for the Civil Rights Office to review, evaluate, and verify information provided for in the application. An interview of the applicant may be necessary at the discretion of the DEPARTMENT prior to approval of the application. If an interview is deemed necessary it will be scheduled at the convenience of all parties.

6. Equal Opportunity Action requires individuals to be considered on the basis of individual capacities and not on the basis of any characteristics generally attributed to the group.

   If a bidder requests or accepts bids for subcontract work, the bidder will request and accept bids from DBEs in the work classifications that potentially will be subcontracted.

7. Good Faith Efforts means efforts to achieve a DBE goal or other requirements of this part that by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirements.

8. Lack of Financial Fitness is a performance-based definition based solely on failure to pay promptly. There is no reference to financial status or financial capability.

9. Prompt Payment means payment made no later than ten (10) work days after receipt of payment by the Contractor or Subcontractor, Service Provider or Supplier at any lower tier.

10. Race Conscious measure or program is focused specifically on assisting only DBEs, including women-owned DBEs. UDOT must establish contract goals to meet any portion of its overall DBE goal that it does not project being able to meet using race neutral means. To ensure that the DBE program continues to be narrowly tailored to overcome the effects of discrimination, UDOT must adjust the use of contract goals as follows:

    a. If during the course of any year it is determined that the overall goal will be exceeded, UDOT will reduce or eliminate the use contract goals to the extent necessary to ensure that the use of contract goals does not result in exceeding the overall goal.

    b. If it is determined that UDOT will fall short of its overall goal, then appropriate modifications in the use of race neutral and/or race conscious measures will be made to allow UDOT to meet the overall goal.

11. Race Neutral measure or program is one that is, or can be, used to assist all small businesses. UDOT must meet the maximum feasible portion if its overall DBE goal by using race -neutral means of facilitating DBE participation. Race neutral DBE participation includes:

    a. Any time a DBE wins a prime contract through customary competitive procurement procedures,

    b. Is awarded a subcontract on a prime contract that does not carry a DBE goal,

    c. Is awarded a subcontract from a prime contractor that did not consider its DBE status in making the award even if there is a DBE goal.
    For the purposes of this part, race-neutral includes gender-neutrality.

12. Regular Employee is a person who:

    a. Would be working for the DBE firm on any other subcontract with any other contractor.

    b. Is a permanent employee of the DBE firm

       Or

       Has been recruited through the traditional recruitment and/or employment centers

    c. Has not recently been employed by the prime contractor on the present project, another subcontractor on the present project, or the renter-lesser of equipment being used on the present project.

    d. Is not a member of a construction crew that regularly works for a non-DBE.

    e. Is not a licensed contractor who is at the time "unemployed" or "between jobs."

13. Regular Equipment is owned or leased and operated on a long term agreement and not on an *ad hoc* or contract by contract agreement.

    a. The equipment would be used by the DBE firm on any other subcontract with any other contractor.
    b. The equipment would be owned by the DBE firm.

    Or

       The equipment would be leased/rented from traditional equipment lease/rental sources.

    c. The DBE firm would have a rental/lease agreement for any rented or leased equipment.

    d. The equipment cannot belong to:

       (1.) Prime Contractor
       (2.) Another subcontractor on the present project.
       (3.) Supplier of materials being installed by the DBE firm.

    e. The equipment cannot come from another contractor fully operated.

14. Reasonable Bid

This is a bid the DEPARTMENT would accept if it were the only bid submitted. Generally, this is a bid within 10 percent of the Engineer's Estimate.

15. Responsible Bidder

A responsible bidder has the apparent ability and capacity to perform the contract requirements.

In addition to normal prequalification, a responsible bidder is defined as one who has signed (manually or electronically) and submitted with the bid the DBE Bid Conditions Assurance of good faith effort included as Part I of this Special Provision certifying the intention to meet the DBE goal of a proposed contract or to continue good faith effort to do so. These goals may be met by subcontracting or leasing contracts with a DBE or purchasing material from a DBE insofar as the work or material becomes a part of a proposed contract.

16 Responsive Bidder

a. A responsive bidder is a bidder who unequivocally offers to provide services or supplies in conformity with the material terms of the solicitation. In addition to normal prequalification and other bidding requirements, a responsive bidder in relationship to this Special Provision is defined as one who submits evidence of proposed subcontract performance with certified DBE firms to achieve the required dollar amount necessary to achieve the percentage goal.

b. Bidders may be considered as presumptively responsive if they have failed to satisfy the advertised DBE goal set for the proposed contract but have certified in their bid that good faith efforts have been expended to meet the goal and that they will continue during the performance of the contract to locate, solicit, and involve DBE firms in contract performance. Documentation of the bidder's good faith efforts must be included with the bid package of the DEPARTMENT's review and assessment. Failure to do so shall render the bid non-responsive. The DEPARTMENT will reject the bid.

17. Satisfactory Completion of a subcontract occurs when:

a. The subcontractor has satisfactorily completed in all respects the work under the Contract.

b. The Contractor and the subcontractor have notified the ENGINEER in writing that the work of the subcontractor has been completed.

c. The Engineer will be given a reasonable length of time to check quantities if necessary. Checking quantities does not guarantee the absolute correctness of quantities.

d. The Contractor and the subcontractor have satisfactorily executed and delivered to the ENGINEER all documents, certificates and proofs of compliance required by the Contract. The satisfactory execution and delivery of these documents, certificates and proofs of compliance to the ENGINEER is a material requirement of the contract.

e. The ENGINEER accepts in writing the work of the subcontract.

f. Satisfactory Completion refers only to payment of retainage and accrued interest. A determination of Satisfactory Completion and payment in full for work performed does not relieve the contractor nor the subcontractor from any contractual obligation.

18. Satisfactory Performance means work performed and materials furnished in conformity with the plans and specifications.

19. Service Provider means a broker or a middle man. A business person who buys, sells or performs a service for another in exchange for a mark up or commission.

20. Socially and Economically Disadvantaged Individuals means any individual who is a citizen (or lawful admitted permanent resident) of the United States and who is:

a. Any individual who the DEPARTMENT finds to be a socially and economically disadvantaged individual on a case-by-case basis.

b. Any individual in the following groups, members of which are rebuttably presumed to be socially and economically disadvantaged:

(1) “Black Americans,” which includes persons having origins in any of the black racial groups of Africa;

(2) “Hispanic Americans,” which includes persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American or other Spanish or Portuguese culture or origin, regardless of race;

(3) “Native Americans,” which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians;

(4) "Asian-Pacific Americans," which includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S.Trust Territories of the Pacific Islands, (Republic of Palau), the Commonwealth of the Northern Mariana Islands, Macao, Fiji, Tonga, Kirbati, Juvalu, Nauru, Federated States of Micronesia, or Hong Kong;

(5) "Subcontinent Asian Americans," which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka.

(6) Women.

(7) Any additional groups whose members are designated as socially and economically disadvantaged by the SBA, at such time as the SBA designation becomes effective.

21. Subcontractor

A subcontracting arrangement is generally considered to exist when a person or firm assumes an obligation to perform a part of the contract work and the following conditions are present.

a. The person or firm performing the work is particularly experienced and equipped for such work.

b. Compensation is related to the amount of work accomplished rather than being on an hourly basis.

c. Choice of work methods, except as restricted by the specifications, and the furnishing and controlling of labor and equipment are exercised by the subcontractor with only general supervision being executed by the prime contractor.

d. Personnel involved in the operation are under the direct supervision of the subcontractor and are included on the subcontractor's payroll.

All conditions involved shall be considered and no one condition alone will normally determine whether a subcontract actually exists. In all cases, a DBE subcontractor must be an independent organization, and the ownership and control by the socially and economically disadvantaged individual(s) must be real and continuing. The prime contractor, a subcontractor, or a supplier shall not be responsible for the various operating and management activities of a DBE firm.

22. Supplier

Provides or furnishes materials, goods or services that may be incorporated into the project. The supply transaction is to be documented by an appropriate purchase agreement that includes the required provisions for Federal-aid construction projects.

23. UUCP The Utah Unified Certification Program (UUCP) provides "one-stop shopping" to applicants for DBE certification, such that an applicant is required to apply only once for a DBE certification that is honored by all recipients of Federal-aid Funds in the State of Utah.

C. DETERMINATION OF DBE CONTRACTOR'S ELIGIBILITY BY UUCP

1. Any Contractor may apply to the UUCP for status as a DBE. Applications shall be made on forms provided by the UUCP entitled "UNIFORM CERTIFICATION APPLICATION" or "Information for Determining DBE Joint Venture Eligibility," Form No. R-817. Application need not be made in connection with a particular bid. Only work contracted to certified DBE prime contractors or subcontractor to firms that have applied for and have been granted status as a DBE by the UUCP shall be considered toward contract goals as established in Subsection A.

2. It shall be the Contractor's responsibility to submit a DBE application so that the UUCP has time to review it. The UUCP will review applications in a timely manner but is not committed to approve DBE status within any given period of time. The UUCP must have ample lead time to review, evaluate, and verify information provided with a application.

3. The DEPARTMENT shall maintain a UUCP Unified DBE Directory of DBE Contractors, vendors, service providers and suppliers that is updated as changes occur for the purpose of providing a reference source to assist any bidder in meeting the requirements of this bid condition. Bidders must use the most current DBE information available on the web site when submitting bids. A current UUCP DBE directory representing certified DBE Contractors is available through the UDOT Civil Rights Office, and also on the Internet at (click on this link):

http://www.udot.utah.gov/index.php?m=c&tid=198

An electronic file of the UUCP DBE Directory is available for downloading to use in the Electronic Bidding System (EBS) at the following URL (click on this link):

http://www.udot.utah.gov/index.php/m=c/tid=317

4. In meeting the requirements of this bid condition, bidders are in no way limited to the DBE Directory referred to in 3 above in seeking out and negotiating with the DBE Contractors and determining which items of work shall be subcontracted to DBE Contractors. Bidders shall exercise their own judgments in selecting any subcontractor to perform any portion of the work.

   The UUCP prior to bid opening must grant DBE status to any DBE Contractor or DBE Joint Ventures. DBE credit will not be allowed toward *race conscious* goals for a firm or joint venture that has not been DBE certified by the UUCP.

D. BIDDING REQUIREMENTS

All bidders must satisfy the bidding requirements of this part. A DBE prime contractor's performance does not count toward fulfilling the DBE goal. A prime bidder who is a DBE contractor shall meet the DBE goal by using DBE subcontractors or by using good faith efforts.

1. DBE Bid Assurance

   a. Race Conscious Goal
   For a bid with a DBE goal greater than 0.0 percent to be considered responsive, *Part* A of the DBE Bid Assurance must be completed and included in the BID PROPOSAL, certifying that they will meet or exceed the Goal for Bid Evaluation established in Subsection A, or that they fail to meet the goal but have and will put forth good faith effort to meet or exceed the goal of the DBE program. *The EBS software based upon the entry of the DBE Commitment and/or the Good Faith Documentation into EBS will complete part A of the DBE Bid Assurance*. In either event, the Contractor shall continue efforts to consider and utilize DBE firms during the performance of the contract.

   b. Race Neutral Goal
   For a bid with a DBE goal of 0.0 percent to be considered responsive, *Part B* of the DBE Bid Assurance must be included in the BID PROPOSAL certifying that the Bidder has utilized equal opportunity action to allow DBE's to compete for and perform on subcontracts. *Part B* of the DBE Bid Assurance will be completed based upon the following information entered into EBS:

      (1) Bids with no subcontracting opportunities
      Bidders who intend to do all the work with their own organization will indicate this in EBS on the Bid Submission Checklist and Forms window. EBS will subsequently indicate on Part B of the DBE Bid Assurance that the Bidder does not intend to sublet a portion of the contract work.

After the award of the bid, in the event that a Contractor indicates that he does not intend to sublet any work and subsequently determines to sublet a portion of the work, the Contractor:

(a) must justify why subcontract quotes were not a part of the Bid Proposal,

(b) must utilize equal opportunity action to allow DBEs to compete for and perform on the work to be sublet,

(c.) must submit the required Race Neutral Documentation with the proposed subcontract.

NOTE: The Contractor may use the 'DBE Contact Log' and 'Quote Comparison' functions in EBS to develop the above requirements for documentation.

(2.) Bids with subcontracting opportunities
Race Neutral measure or program is one that is, or can be, used to assist all small businesses. UDOT must meet the maximum feasible portion if its overall DBE goal by using race -neutral means of facilitating DBE participation.

Bidders who solicit non-DBE subcontract quotes will utilize equal opportunity action to allow DBEs to compete for and perform on subcontracts. If the Bidder has selected 'Intend to Sublet' on the 'Bid Submission Checklist and Forms' window in the EBS software, Part B of the DBE Bid Assurance will indicate that the Bidder intends to sublet a portion of the contract work.

The results of the equal opportunity actions will be included with the EBS prepared Bid Proposal as a *Race Neutral Documentation*. Part B of the Bid Assurance Form will indicate the existence of any of the following types of Race Neutral Documentation that the Bidder has entered into EBS:

(a) DBE Commitment

(b) DBE Contact Log

(c) Quote Comparison

In either event, the Contractor shall continue efforts to consider and utilize DBE firms during the performance of the contract.

2. DBE Commitment

For a bid to be considered responsive, Bidders shall submit the following information regarding DBE compliance with the EBS prepared Bid Proposal:

Submit a DBE Commitment of work that will be subcontracted to certified DBE firm(s) as listed in the UUCP's Directory or DBE firms that have been approved by the UUCP prior to bid opening.

a. The names of DBE firms that will participate in the contract;

b. A specific description of the work each named DBE firm will perform (list specific bid items). Listed bid items shall be considered to be committed in their entirety unless Bidders designate otherwise in their DBE Commitment.

(1.) If mobilization is a bid item that is partially committed to a DBE, indicate the dollar amount of the DBE mobilization.
(2.) If a partial quantity is committed to a DBE, indicate the quantity committed to the DBE.

(3.) If a partial performance of an item is committed to a DBE, explain what part of the item the DBE will perform;

c. The dollar amount of participation by each named DBE firm;

d. If the contract goal is not met, evidence of good faith efforts.

The DBE Commitment is to be included in the bid prepared within, and said information will be kept confidential and will not be reviewed unless the Contractor is otherwise determined to be the low Bidder or the DEPARTMENT elects to review said information in making its determination as to award of the contract.

3. Race Neutral Commitment

For a bid to be considered responsive, Bidders shall submit the following information regarding equal opportunity compliance with their EBS prepared Bid Proposal:

Submit a Race Neutral DBE Commitment of work that will be subcontracted to certified DBE firm(s) as listed in UUCP DBE Directory or DBE firms that have been approved by the DEPARTMENT prior to bid opening. The DBE Commitment will include:

a. The bid item(s) or work classification(s) that will be subcontracted;

b. The DBE firms that have been contacted. A reasonable number of DBEs available to perform the anticipated subcontract work must be contacted. The DBE firms must be given a reasonable amount of time to develop subcontract quotes.

c. The results of the contacts with the DBE firms

d. Name(s) of anticipated DBE subcontractor(s)

e. Anticipated work items to be performed by DBE(s)

f. Anticipated dollar amount of subcontract(s).

A specific description of the work each named DBE firm will perform (list specific bid items). Listed bid items shall be considered to be committed in their entirety unless Contractors designate otherwise in their DBE commitment.

(1.) If mobilization is a bid item that is partially committed to a DBE, indicate the dollar amount of the DBE mobilization.

(2.) If a partial quantity is committed to a DBE, indicate the quantity committed to the DBE.

(3.) If a partial performance of an item is committed to a DBE, explain what part of the item the DBE will perform;

NOTE: In the EBS (Electronic Bidding System):
Use the quote comparison to document item (a)
Use the contact log to document items (b) and (c).
Use the DBE commitment to document items (d), (e), and (f).

The *Race Neutral Documentation* submitted in the EBS prepared bid, will be kept confidential and not reviewed unless the Contractor is otherwise determined to be the low Bidder or the DEPARTMENT elects to review said information in making their determination as to award of the contract.

4. <u>DBE Written Confirmation</u>

Low Bidder shall submit to the Director of Construction & Materials within three (3) work days after the bid opening written confirmation from each DBE that it is participating in the contract as provided in the Prime Contractor's DBE Commitment or Race Neutral Documentation. The written confirmation shall include the following information:

a. A description of the work that will be performed (list specific bid items). Listed bid items shall be considered to be committed in their entirety unless Contractors designate otherwise in their DBE commitment.

(1) If mobilization is a bid item that is partially committed, please confirm the dollar amount of the mobilization to be performed.

(2) If a partial quantity is committed, confirm the quantity to be performed.

(3) If a partial performance of an item is committed, confirm what part of the item will be performed.

(4) Unit bid prices for each bid item that is committed to a DBE.

(5) Total dollar amounts (mathematical extensions) for each bid item that is committed to a DBE

b. The dollar amount of participation by each named DBE firm.

5. Good Faith Efforts

Bidders who fail to meet the DBE goal for bid evaluation must demonstrate with documentary evidence that they made good faith efforts to do so. Bidders are required to include the Good Faith Efforts Documentation with the EBS prepared Bid Proposal. The said information will be kept confidential and not reviewed unless the Bidder is otherwise determined to be the low Bidder or UDOT and authorized representatives elect to review said information in making their determination as to award of the contract. For the bid to be considered responsive, Bidders shall include with the BID PROPOSAL specific documentary evidence that good faith efforts have been made to meet the goal.

Attached hereto and marked Exhibit A, and by this reference made a part hereof, is a list of actions that may be used to prove the kinds of efforts prospective Bidders should consider in their attempts to demonstrate good faith efforts. The list of actions, as contained in Exhibit A, is not intended to be an exclusive list of efforts that a prospective Bidder may wish to consider in demonstrating good faith efforts to satisfy DBE participation requirements. The determination of good faith efforts shall be based upon the information and documentation of the actions supplied by the Bidder with the bid proposal. The DEPARTMENT reserves the right to investigate and verify such information or to request the low dollar Bidder to clarify information submitted at the time of bid.

6. Award of the Contract

The award of the contract, if awarded, will be made to the apparent successful responsive, responsible Bidder who submitted a reasonable bid for the contract and has complied with this Subsection D.

7. Administrative Reconsideration

Good faith efforts as used herein shall be determined on a case by case basis. If it is determined that the apparent low Bidder has failed to meet the requirements of Exhibit A, the bidder will be provided an opportunity for administrative reconsideration.

a. Official(s) who did not take part in the original determination will perform the administrative reconsideration..

b. The Bidder will have the opportunity to provide to written documentation or argument concerning the issue of whether it met the goal or made adequate good faith efforts to do so.

c. The Bidder will have the opportunity to meet in person with the reconsideration official to discuss the issue of whether it met the goal or made adequate good faith efforts to do so.

d. The Bidder will be notified in writing of the decision and the basis for the decision.

e. The reconsideration decision is administratively final and is not appealable to FHWA nor to the DOT.

E. COUNTING DBE PARTICIPATION TOWARD GOALS FOR BID EVALUATION

1. The DEPARTMENT will recognize and grant DBE credit toward the goal for bid evaluation (*race conscious* goals) for work committed to DBE subcontractors ONLY in the types of work for which DBE certification has been granted by the UUCP prior to bid opening. It is necessary that all bidders refer to the UUCP DBE Directory for direction and guidance. A current copy of the DBE directory is available through the Civil Rights Office and on the Internet at (click on this link):

http://www.udot.utah.gov/index.php?m=c&tid=198

An electronic file of the DBE Directory is available for downloading to use in the Electronic Bidding system (EBS) at the following URL (click on this link):

http://www.udot.utah.gov/index.php/m=c/tid=317

2. The DEPARTMENT will grant DBE credit toward *race neutral* goals for work performed by firms who are not DBE certified prior to bid opening or who bid types of work for which DBE certification has not been granted by the DEPARTMENT prior to bid opening but subsequently are granted DBE certification.

3. Commitments to DBEs that exceed the Goal for Bid Evaluation will be considered as both race conscious and race neutral. The dollar amount of the Goal for Bid Evaluation will be considered to be race conscious participation. Any dollar amounts in excess of the Goal for Bid Evaluation will be considered as race neutral participation.

F. COUNTING DBE PARTICIPATION TOWARD GOALS FOR PERFORMANCE

Subcontracts to DBEs that exceed the *Goal For Bid Evaluation* will be considered in part as race conscious participation and in part as race neutral participation. Any dollar amounts in excess of the *Goal For Bid Evaluation* will be considered as race neutral participation.

It is intended that the Contractor shall utilize the subcontractors designated in the DBE Commitment in the performance of the contract. Any changes in the Contractor's DBE Commitment, such as substitution of a DBE subcontractor, substitution of contract items, or decrease in total dollar amount must be approved by the DEPARTMENT and must be covered by a Change Order. Unauthorized substitutions or eliminations may result in the imposition of sanctions. Failure to meet the Goal for Performance, that is established at the time of award by the Contractor's DBE Commitment, without adequate justification, including concurrence of the ENGINEER and Civil Rights Manager, shall result in the imposition of sanctions as provided in Part I of this Special Provision.

1. Only the value of the work actually performed by the DBE will count toward DBE goals.

2. Contractors may count toward their contract goals a portion of the total dollar value of a contract with a joint venture eligible under the standards of this bid condition equal to the percentage of the ownership and controls of the DBE partner in the joint venture.

3. The ENGINEER will recognize and grant DBE credit for work subcontracted and performed by DBE subcontractors ONLY in the types of work for which DBE certification has been granted by the UUCP prior to bid opening. It is necessary that all Bidders refer to the UUCP'DBE Directory for direction and guidance. A current copy of the UUCP DBE directory is available through the Civil Rights Office and on the Internet at (click on this link):

http://www.udot.utah.gov/index.php?m=c&tid=198

An electronic file of the DBE Directory is available for downloading to use in the Electronic Bidding system (EBS) at the following URL (click on this link):

http://www.udot.utah.gov/index.php/m=c/tid=317

4. Contractors may count toward their goals only the value of the work actually performed by the DBE toward the DBE goals.

    a. Work performed by the DBE's own forces using "regular employees" and "regular equipment."

    b. The cost of supplies and materials obtained and purchased by the DBE and equipment leased for the work of the contract.

    c. Work that a DBE subcontracts to a lower tier DBE firm.

5. Contractors may not count toward the DBE goals:

    a. Supplies and material purchased and equipment leased by the DBE from the prime Contractor or its affiliates or another subcontractor on the project.

    b. Work that a DBE subcontracts to a lower tier non-DBE firm.

6. Contractors may count toward their goals only expenditures to a DBE that performs a commercially useful function in the work of the contract.

    a. A DBE performs a "commercially useful function" when it is responsible for the execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself.

    b. The DEPARTMENT shall evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and other relevant factors.

    c. A DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra participant, the DEPARTMENT must examine similar transactions, particularly those in which DBEs do not participate.

d. A DBE does not perform a commercially useful function if it does not perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own work force, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved.

7. The DEPARTMENT shall use the following factors in determining whether a DBE trucking company is performing a commercially useful function:

a. The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract.

b. The DBE must be responsible for the management and supervision of the entire trucking arrangement for the purpose of meeting DBE goals.

c. The DBE receives credit for the total value of the transportation services it provides on the contract using trucks its owns, insures, and operates using drivers it employs.

d. The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.

e. The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit *for the total value of the transportation services provided by non-DBE lessees not to exceed the value of transportation services provided by DBE-owned trucks on the contract. Additional participation by non-DBE lessees receives credit only for the fee or commission it receives as a result of the lease arrangement.*

Example: *Leases two trucks from DBE Firm Y and six trucks from non-DBE Firm Z. DBE credit would be awarded for the total value of transportation services provided by Firm X and Firm Y, and may also be awarded for the total value of transportation services provided by four of the six trucks provided by Firm Z. In all, full credit would be allowed for the participation of eight trucks. With respect to the other two trucks provided by Firm Z, DBE credit could be awarded only for the fees or commissions pertaining to those trucks Firm X receives as a result of the lease with Firm Z.*

f. For purposes of this paragraph (d), a lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

8. Contractors may count expenditures with DBEs for materials or supplies as provided in the following:

a. If the materials or supplies are obtained from a DBE manufacturer, 100 percent of the cost of the materials or supplies counts toward DBE goals.

For purposes of this paragraph, a manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications.

b. If the materials or supplies are purchased from a DBE regular dealer, 60 percent of the cost of the materials or supplies counts toward DBE goals.

For purposes of this paragraph, a regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.

(1) To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question.

(2) A firm may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating or maintaining a place of business if the firm both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment shall be by a long-term lease agreement and not on an *ad hoc* or contract-by-contract basis.

(3) Packagers, brokers, manufacturers representatives, or other persons or firms who arrange, or expedite, transactions are not regular dealers.

(4) A DBE trucking company that picks up a product from a manufacturer or regular dealer and delivers the product to the Contractor performs a delivery service. Credit will not be given based on a percentage of the cost of the product; credit will be allowed only for the cost of the transportation service.

9. If the materials or supplies are purchased from a service provider, the fees or commission charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies, count toward the DBE goals.

A Service Provider is a business that is neither a manufacturer nor a regular dealer but simply transfers title of a product from manufacturer to ultimate purchaser or a firm that puts a product into a container for delivery. A service provider charges a fee or a commission for assistance in the procurement of the materials and supplies, or fees or transportation for the delivery of materials or supplies required on a job site.

a. Only the fees, commissions, or transportation performed by the DBE service provider count toward the DBE goals. The DEPARTMENT must determine that the fees are reasonable and not excessive as compared with fees customarily allowed for similar services.

b. No portion of the cost of the materials and supplies count toward the DBE goals. Documentary evidence of the supply agreements, i.e., sales contract, purchase order, etc., shall be submitted to the Resident Engineer or Consultant Engineer at the Preconstruction Conference. The agreement shall set forth the estimated quantities, unit prices, total dollar amounts, material guarantees, delivery, and payment requirements including the requirements listed part E, 4, e, of this DBE Special Provision.

10. Prompt payment for the work accomplished is an integral part of the concept of commercially useful function.

See Section F, Subsection 6,a for a definition of “commercially useful function.”

G. CONTRACTOR’S RESPONSIBILITY

1. It is the Contractor’s responsibility to determine the level of professional competence and financial responsibility of any proposed DBE subcontractor. The Contractor shall ascertain that the proposed DBE subcontractor is particularly experienced and equipped for the work of the subcontract.

2. It is the Contractor’s responsibilities to monitor and assure that DBE’s listed to fulfill DBE goals perform a commercially useful function.

H. DBE SUBCONTRACTOR'S FAILURE TO PERFORM SUCCESSFULLY

If, during the performance of the contract, the Prime Contractor determines that a DBE subcontractor is unable to perform successfully, the Contractor shall make good faith efforts to replace the DBE subcontractor with another DBE to fulfill the Goal for Bid Evaluation. For Race Conscious DBE participation, the Contractor shall consider the uncompleted DBE committed work items as well as other work items as a part of the good faith efforts. All substitutions of DBE subcontractors shall receive prior approval by the DEPARTMENT.

The Contractor shall not substitute DBE subcontractor(s), work item(s), nor decrease dollar amount(s) as indicated in the Contractor's DBE Commitment without prior submission of written justification to the ENGINEER and without prior approval of the ENGINEER and the Civil Rights Manager.

The Contractor shall not substitute DBE subcontractor(s), work item(s), nor decrease dollar amount(s) as indicated in the Contractor's DBE Commitment Substitutions without prior submission of a written statement from the DBE consenting to the substitution or decrease and holding the ENGINEER harmless for approving the substitution.

Unauthorized substitutions of the DBE(s), underruns of work item(s), or decreases in dollar amount(s) may result in the imposition of sanctions as allowed under Section I.

UDOT reserves the right to authorize completion of the work that was subcontracted to a DBE who is unable to perform successfully by either of the following methods:

1. Approve, at no additional cost to the DEPARTMENT, a replacement DBE subcontractor and, when appropriate, modify the contract to provide for reasonable extra time necessary to obtain a DBE replacement at no additional cost to the DEPARTMENT.

2. Direct the Contractor to perform at unit bid prices. In the event this option is selected, the percentage DBE goal will be adjusted as may be appropriate.

I. SANCTIONS

1. The Contractor's DBE Commitment becomes a 3-part commitment comprised of the DBE Contractor(s), work item(s) and dollar amount(s). The Commitment becomes a contract specification upon award of the contract and becomes the minimum goal for contract performance.

If the Contractor fails to achieve the minimum goal, established in the contract at the time of the award of the contract or later modified, the contract payments shall be reduced as a liquidated damage and not as a penalty by an amount equal to the dollar amount of work not performed by the DBE. The dollar amount of any sanction will be computed using the unit prices indicated in the DBE subcontract

Exceptions:

a. Any authorized adjustment in the DBE Commitment that has been approved by the ENGINEER and Civil Rights Manager.

b. Race neutral participation.

2. The ENGINEER shall deduct maximum points for *Compliance with EEO* when completing the *Contract Performance Report.*

J. RECORD KEEPING

1. The DEPARTMENT must create and maintain a Bidders list consisting of all firms bidding on prime contracts and bidding or quoting subcontractors on DOT-assisted projects. For every firm, the following information must be submitted annually:

a. Firm name

b. Firm address

c. Firm's status as a DBE or non-DBE

d. Age of firm

e. Annual gross receipts of the firm.

Every firm bidding or quoting as a prime or subcontractor at any level on DOT-assisted projects must register annually with UDOT.

NOTE: Items (a) and (b) should be completed in the EBS software by using the 'Quote Comparison' and submitted with your bid.

2. With the bid or no later than 10 work days after bid opening date, each and every prime bidder must submit to The DEPARTMENT a list of all firms bidding and/or quoting as subcontractors, service providers or suppliers.* The Prime Bidder must also submit for each and every firm sub-quoting the following information:

a. Firm Name

b. Firm address

c. Work classification(s) bid by subcontractor, service provider or supplier:

(1) Building
(2) Concrete: Curb & gutter, Flatwork, Inlet Boxes, etc.
(3) Concrete: Structural
(4) Consulting firms
(5) Demolition
(6) Electrical: Hwy lighting, signals & fiber optics
(7) Equipment rentals and sales
(8) Excavation
(9) Fencing
(10) Grading
(11) Guardrail
(12) Landscaping & erosion control
(13) Miscellaneous
(14) Painting: Highway structures
(15) Painting: Highway striping & painted messages
(16) Paving: Asphalt highway & runway, etc.
(17) Paving: Concrete
(18) Paving: Miscellaneous
(19) Pipe Culverts, drainage, sewer & water
(20) Reconstruction : Manholes, etc.
(21) Rotomilling
(22) Sawing & sealing
(23) Signs permanent
(24) Steel reinforcing
(25) Steel structural
(26) Surveying
(27) Traffic Control: Flagging
(28) Traffic Control: Temp. Signs and Devices
(29) Trucking
(30) Supplier: Manufacturer
(31) Supplier: Regular Dealer
(32) Supplier: Service Provider

*NOTE: This requirement can be met with the ‘Quote Comparison’ function in EBS. The report must be printed and faxed to the Civil Rights Department at (801) 965-4101.

Exhibit A

Suggested Actions and Required Documentation to Demonstrate
Good Faith Efforts to Comply With DBE Requirements

A Bidder must show that it took necessary and reasonable steps to achieve a DBE goal that, by their scope, intensity, and appropriateness, can reasonably be expected to fulfill the program requirement. The efforts employed should be those that would be taken if a Bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract. Goal. Mere *pro forma* efforts are not good faith efforts to meet the DBE contract requirements.

Documentary evidence of each action taken must be submitted with the Bid Proposal.

The following is taken, with some modification, from CFR 49 Part 26, Appendix A. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive.

GUIDANCE CONCERNING GOOD FAITH EFFORTS

I. When the DEPARTMENT establishes a contract goal on a Federal aid contract, a Bidder must, in order to be responsive, make good faith efforts to meet the goal. The Bidder can meet this requirement in either of two ways:

A. The Bidder can meet the goal, documenting commitments for participation by DBE firms sufficient for this purpose.

B. If it doesn't meet the goal, the Bidder can document adequate good faith efforts. This means that the Bidder must show that it took all necessary and reasonable steps to achieve a DBE goal or other requirement of this part that, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful.

II. In any situation in which the DEPARTMENT has established a contract goal, CFR 49, Part 26 requires UDOT to use the good faith efforts mechanism of this part. It is up to the DEPARTMENT to make a fair and reasonable judgment whether a Bidder that did not meet the goal made adequate good faith efforts. It is important for the DEPARTMENT to consider the quality, quantity, and intensity of the different kinds of efforts that the Bidder has made. The efforts employed by the Bidder should be those that one could reasonably expect a Bidder to take if the Bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract goal. Mere pro forma efforts are not good faith efforts to meet the DBE contract requirements. The DEPARTMENT emphasizes, however, that its determination concerning the sufficiency of the firm's good faith efforts is a judgment call: meeting quantitative formulas is not required.

III The U. S. Department of Transportation also strongly cautions the DEPARTMENT against requiring that a Bidder meet a contract goal (i.e., obtain a specified amount of DBE participation) in order to be awarded a contract, even though the Bidder makes an adequate good faith efforts showing. This rule specifically prohibits UDOT from ignoring bona fide good faith efforts.

IV. The following is a list of types of actions that UDOT should consider as part of the Bidder’s good faith efforts to obtain DBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.

A. Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform the work of the contract. The Bidder must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The Bidder must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.

B. Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime Contractor might otherwise prefer to perform these work items with its own forces.

C. Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

D. Negotiating in good faith with interested DBEs.

(1) It is the Bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work.

(2) A Bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration.

(a) The fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable.

(b) No specific price differential has been established by 49 CFR 26. This approach allows flexibility.

(c) Along with the reasonableness of the cost necessarily comes the fact that prime Contractors are not expected to bear unreasonable costs.

(d) Any burden that a non-DBE subcontractor might face is also limited by the reasonableness of competing bids.

(3) The ability or desire of a prime Contractor to perform the work of a contract with its own organization does not relieve the Bidder of the responsibility to make good faith efforts. Prime Contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.

(4) The ability or desire of a prime Contractor to bundle the work of a subcontractor who wishes to perform all the work of the subcontract with its own organization does not relieve the Bidder of the responsibility to require a subcontractor to make good faith efforts. Subcontractors are not required to accept higher quotes from lower tier DBEs if the price difference is excessive or unreasonable.

E. Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The Contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the Contractor's efforts to meet the project goal.

F. Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.

G. Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

H. Effectively using the services of available minority/women community organizations; minority/women Contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.

NOTE: The DBE 'Contact Log' in EBS, submitted as part of the Bid Proposal, can be used to document the following efforts:

IV. A.
IV. C.
IV. D. (1)

The 'Quote Comparison' in EBS, submitted as part of the Bid Proposal, can be used to document the following efforts:

IV. B.
IV. D. (3)

V. In determining whether a Bidder has made good faith efforts, the DEPARTMENT may take into account the performance of other Bidders in meeting the contract. For example, when the apparent successful Bidder fails to meet the contract goal, but others meet it, UDOT may reasonably raise the question of whether, with additional reasonable efforts, the apparent successful bidder could have met the goal. If the apparent successful Bidder fails to meet the goal, but meets or exceeds the average DBE participation obtained by other Bidders, you may view this, in conjunction with other factors, as evidence of the apparent successful Bidder having made good faith efforts.

Submit with the Bid Proposal documentary evidence to prove that good faith efforts were accomplished:

1. Submit copies of all solicitations: correspondence, faxes, advertisements, telephone logs with dates, times, names of persons contacted, nature of conversation, DBEs' responses, and etc.

2. If DBEs submitted quotes that were not used because the range of additional costs was determined to be excessive or unreasonable, submit the range that has been determined by the Bidder to be a reasonable range of additional costs and explain how that range was determined.

3. As a part of demonstrating a reasonable range of additional costs, submit copies of all subcontractor quotes, copies of spread sheet(s) which compare all DBE quotes with non-DBE quotes and which include bid item(s) quoted, work classifications, quantities, prices, and dollar amounts.

4. Submit a narrative of specific names and types of information, assistance, considerations given, and efforts to assist DBEs under Item IV, subparts C through F.

DBE BID ASSURANCE
COMPLETE ONLY PART A. OR PART B.

PART A. RACE CONSCIOUS DBE PARTICIPATION
SPECIFIC ASSIGNED *CONTRACT DBE GOAL* FOR BID EVALUATION_____PERCENT

If the DBE goal which is indicated in Section A, CONTRACT GOAL, of APPENDIX A, BID CONDITIONS, DISADVANTAGED BUSINESS ENTERPRISE (DBE) is greater than 0.0 percent, complete only Part A, and submit *DBE Commitment*, and if applicable, *Documentation of Good Faith Efforts*.

By signing the BID REPORT (either manually or electronically), it is understood that those individuals who sign as owners or authorized representatives of the Bidder, have read and are familiar with APPENDIX A, SPECIAL PROVISION, BID CONDITIONS, DISADVANTAGED BUSINESS ENTERPRISE and hereby certify that good faith efforts have been utilized to meet or exceed the goal of the DBE Program as established by the DBE Special Provision.

Indicate intended DBE commitment.

_____ We intend to meet or exceed the contract goals as per the DBE Commitment which is submitted with the Bid Proposal.

RACE CONSCIOUS AND RACE NEUTRAL COMMITMENT _____ PERCENT

_____ We fail to meet the advertised goal. This firm commits to DBE participation as per the DBE Commitment that is submitted with the EBS Bid Proposal and to continue Good Faith Efforts throughout the performance of the project. Documentation of Good Faith Efforts is submitted with the Bid Proposal, including:

1. DBE Contact Log Report
2. Quote Comparison Report

PART B. RACE NEUTRAL DBE PARTICIPATION
ASSIGNED *CONTRACT DBE GOAL* FOR BID EVALUATION
_____ PERCENT

If the DBE goal, which is indicated in Section A, CONTRACT GOAL, of APPENDIX A, BID CONDITIONS, DISADVANTAGED BUSINESS ENTERPRISE (DBE) is 0.0 percent, complete only Part B and submit *Race Neutral DBE Information*.

Federal Projects With Full Size Plan Sheets

By signing the BID REPORT (either manually or electronically), it is understood that those individuals who sign as owners or authorized representatives of the Bidder, have read and are familiar with APPENDIX A, SPECIAL PROVISION, BID CONDITIONS, DISADVANTAGED BUSINESS ENTERPRISE and hereby certify that equal opportunity action has been utilized to allow DBEs to compete for and perform on subcontracts.

_____ We do not intend to sublet a portion of the contract work.

_____ We intend to sublet a portion of the contract work. Our firm has taken equal opportunity action to allow DBEs to compete for and perform on subcontracts. Documentation of Race Neutral efforts is submitted with the Bid Proposal, including:

_____ 1. RACE NEUTRAL DBE COMMITMENT _____ PERCENT

_____ 2. DBE Contact Log Report

_____ 3. Quote Comparison Report

IX. Attention Contractors

E.E.O. Affirmative Action Requirements on Federal and Federal-Aid Construction Contracts of $10,000 or More

Include the Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity, Executive Order (EO) 11246, as amended (incorporated by reference & Appendix A - below) and the Standard Federal Equal Employment Opportunity Construction Contract Specifications set forth in §60-4.3 (incorporated by reference) in all requests for bids/solicitations on all contracts and subcontracts of $10,000 or more

Include in Appendix A, Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity, the goals established by the Office of Federal Contract Compliance Programs (OFCCP) for minority and female participation in each craft on all contracts and subcontracts.

APPENDIX A (EO 11246)

The OFCCP goals for minority representation in each trade are shown below. The goal for female utilization (6.9 percent) applies to all contracts and subcontracts irrespective of their geographical location.

COUNTY	GOAL	COUNTY	GOAL	COUNTY	GOAL
Beaver	12.6	Box Elder	5.1	Cache	5.1
Carbon	5.1	Daggett	5.1	Davis	6.0
Duchesne	5.1	Emery	5.1	Garfield	12.6
Grand	10.2	Iron	12.6	Juab	5.1
Kane	12.6	Millard	5.1	Morgan	5.1
Piute	5.1	Rich	5.1	Salt Lake	6.0
San Juan	10.2	Sanpete	5.1	Sevier	5.1
Summit	5.1	Tooele	6.0	Uintah	5.1
Utah	2.4	Wasatch	5.1	Washington	12.6
Wayne	5.1	Weber	6.0		

These goals are applicable to all contractors' or subcontractors' construction work (whether or not it is Federal or Federally assisted) performed in the covered area.

The Bidder's attention is called to the "Equal Opportunity Clause" (form FHWA 1273- II 1 b, included in this contract) and the "Standard Federal Equal Employment Specifications" set forth in 41 CFR Part 60-4 (incorporated by reference).

Compliance with the Executive Order and the regulations in 41 CFR part 60-4 is based on the implementation of the "Equal Opportunity Clause," specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and the efforts to meet the goals.

Provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification lists the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract will be performed.

Under Section 303 of EO 11246, only the U. S. Department of Labor (DOL) has the authority to determine compliance with EO 11246 and its implementing regulations. The Federal Highway Administration (FHWA) and the State highway agency (UDOT) do not have independent authority to determine compliance with EO 11246, 41 CFR Chapter 60, or the minority and female participation goals established by the Office of Federal Contract Compliance Programs (OFCCP), pursuant to 41 CFR Chapter 60.

If the State highway agency (UDOT) or the FHWA becomes aware of any possible violations of EO 11246 or 41 CFR Chapter 60, each has the authority and the responsibility to notify the OFCCP.

APPENDIX B

As used in these specifications:

a. Covered area: The geographical area described in the solicitation from which this contract resulted;

b. Director: Director, Office of Federal Contract Compliance Programs, United State Department of Labor, or any person to whom the Director delegates authority;

c. Employer identification number: The Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

d. Minority includes:

   (i) Black (all persons having origins in any of the black African racial groups not of Hispanic origin);

   (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);

   (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

   (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

X. Specific Equal Employment Opportunity Responsibilities

1. General

   a. The State Transportation Agency (STA) and Federal Highway Administration (FHWA) have the authority and the responsibility to ensure compliance with 23 USC Section 140 and Title VI of the Civil Rights Act of 1964, as amended, and related regulations, including 49 CFR Parts 21 and 23, and 23 CFR Parts 200, 230, and 633. Pursuant to this authority, the STA and the FHWA will conduct compliance reviews of contractors on federally funded highway projects to determine compliance with these laws and related regulations. The STA will prepare complete, written reports of findings of the compliance reviews. The FHWA will analyze the reports, and the evidence on which they are based.

   b. A contractor's EO requirements are in the contract provisions referenced in the FHWA-1273 (included herein). These include contractor acceptance of Section II, 1 c, and the obligation of the contractor to comply with specific EO activities at a minimum.

   c. Submit form PR-1391 in July and at other times when such information is required by the STA or the FHWA; and submit other documentation and reports as requested by the STA or the FHWA.

2. Equal Employment Opportunity (EEO)

   a. Where minorities and women have been excluded from certain classifications in a contractor's work force, the EEO affirmative action requirements specified in the contract will be implemented in good faith to provide EEO.

   b. The contractor will use the avenue afforded by the Training Special Provision (included herein) to increase minority and female employment in crafts where they have been underrepresented.

3. Minority and Female Average Availability Percentages – Utah

   a. Average percentages for minority (M) and female (F) availability in each trade, by County, are shown below. Availability is defined as "an estimate of the number of qualified minorities or women available for employment in a given job group."

COUNTY	M	F	COUNTY	M	F	COUNTY	M	F	COUNTY	M	F
Beaver	6.8	3.0	Box Elder	9.9	5.0	Cache	9.9	5.0	Carbon	12.3	3.0
Daggett	12.3	3.0	Davis	8.9	3.0	Duchesne	12.3	3.0	Emery	15.5	5.0
Garfield	15.5	5.0	Grand	15.5	5.0	Iron	6.8	3.0	Juab	8.2	4.0
Kane	15.5	5.0	Millard	6.8	3.0	Morgan	11.1	3.0	Piute	15.5	5.0
Rich	9.9	5.0	Salt Lake	21.6	5.0	San Juan	15.5	5.0	Sanpete	8.2	4.0
Sevier	15.5	5.0	Summit	11.1	3.0	Tooele	8.2	4.0	Uintah	12.3	3.0
Utah	11.9	4.0	Wasatch	11.1	3.0	Washington	10.0	4.0	Wayne	15.5	5.0
Weber	17.8	5.0									

b. The use of these average percentages in no way precludes the contractor from performing and documenting good faith efforts to recruit and employ minorities and females.

4. Compliance Determinations

a. The list below is a set of "Good-Faith Efforts" criterion established in FHWA's regulatory and policy requirements that may be used to determine a contractor's good faith efforts:

1. Contractor's EEO Policy
2. Dissemination of the EEO Policy
3. Authority and Responsibility of EEO Officer
4. Periodic EEO meetings (EEO indoctrination)
5. Notices/posters on bulletin board
6. Advertising as an "EEO Employer"
7. Recruitment – Systematic and direct recruitment efforts with sources likely to yield minorities and women
8. Educate all new supervisors within 30 days of reporting to duty
9. Encourage present employees to refer minorities and women
10. Evaluates the spread of wages to determine whether discrimination exists
11. Investigates all complaints, promptly, and appropriate corrective action is taken
12. Assist in locating, qualifying, and increasing the skills of minorities and women
13. Fully uses training programs and advises employees and applicants of opportunities
14. Minorities and women exist in contractor's training program
15. Ensure nonsegregated facilities
16. Minorities and women are employed in all occupations, crafts, and job classifications on an equal basis
17. Procedures establishing the monitoring of subcontractors' compliance with nondiscrimination, EO and EEO obligations
18. The need for adequate records and reports

19. Minorities and women reach accumulating work hours expected based on their representation

b. Affirmative Action is determined based on the evaluation of the contractor's compliance with all of the above good faith efforts and on the contractor's efforts to achieve maximum results from the actions.

c. A contractor is in compliance when there is no evidence of discrimination in employment, training, DBE, Indian Preference provisions, equal opportunity requirements, or evidence every good faith effort has been made.

5. Training Special Provisions

This Training Special Provisions supersedes subparagraph II 6b of the FHWA-1273, and is an implementation of 23 U.S.C.C.140 (a).

Provide training as follows as part of the equal employment opportunity affirmative action program:

Provide on-the-job training aimed at developing full journeymen in the type of trade or job classification involved.

The number of trainees to be trained under the special provision is ____0____ (amount to be filled in by the State Highway Department (STA)).

If a portion of the contract work is subcontracted, determine how many, if any, of the trainees are to be trained by the Subcontractor. Make this training special provision applicable to the subcontract. Retain the primary responsibility for meeting the training requirements imposed by this special provision. Where feasible, 25 percent of apprentices or trainees in each occupation will be in their first year of apprenticeship or training.

Distribute the number of trainees among the work classifications on the basis of needs and the availability of journeymen in the various classifications within a reasonable area of recruitment. Prior to commencing construction, submit to the State highway agency for approval the number of trainees to be trained in each selected classification and training program to be used. Specify the starting time for training in each of the classifications. The STA gives credit for each trainee employed on the contract work who is currently enrolled or becomes enrolled in an approved program. Reimbursement is made for the trainees as provided below.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment. Demonstrate the steps taken to achieve compliance with

this Training Special Provision. This training commitment is not intended nor used to discriminate against any applicant for training, whether a member of a minority group or not.

Do not employ a trainee in any classification in which they have successfully completed a training course leading to journeyman status or in which they have been employed as a journeyman. Include appropriate questions in the employee application or by other suitable means to satisfy this requirement. Document the findings in each case.

The training program selected, and approved by the STA and the FHWA, establishes the minimum length and type of training for each classification in that program. The STA and the FHWA approves a program if it meets the equal employment opportunity obligations and qualification of the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and training are considered acceptable if administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program is obtained from the State prior to commencing work on the classification covered by the program. Provide training in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification if approved by the division office. Some off-site training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, reimbursement is made of 80 cents per hour for training given an employee, on this contract, in accordance with an approved training program. This reimbursement is made even though additional training program funds are received from other sources provided such other source does not specifically prohibit other reimbursements. Reimbursement for off-site training indicated above may only be made where the trainees are concurrently employed on a Federal-aid project and one or more of the following is done: contributes to the cost of the training, provides the instruction to the trainee, or pays the trainee's wages during the off-site training period.

No payment of the 80 cents per hour is made if either the failure to provide the required training or the failure to hire the trainee as a journeyman occurs and evidences a lack of good faith effort in meeting the requirements of this Training Special Provision. A trainee begins training on the project as soon as feasible after start of work. The trainee remains on the project as long as training opportunities exist in his work classification or until he has completed his training program. It is not required that all trainees be on board for the entire length of the contract. Responsibilities under this Training Special

Provision are fulfilled if acceptable training to the number of trainees specified is provided.

Trainees are paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

Furnish the trainee a copy of the program to be followed in providing the training. Provide each trainee with a certification showing the type and length of training satisfactorily completed.

Provide for the maintenance of records and furnish periodic reports documenting their performance under this Training Special Provision. UDOT form C-138, Monthly Training Report satisfies this reporting requirement.

FHWA-1273 Electronic version -- March 10, 1994

XI. Required Contract Provisions

FEDERAL-AID CONSTRUCTION CONTRACTS

ATTACHMENTS

I. GENERAL

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.

3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.

4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

Section I, paragraph 2;
Section IV, paragraphs 1, 2, 3, 4, and 7;
Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.

6. **Selection of Labor:** During the performance of this contract, the contractor shall not:

a. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or

b. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $10,000 or more.)

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.

b. The contractor will accept as his operating policy the following statement:

> "It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training."

2. **EEO Officer:** The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.

3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

5. **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

6. **Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

7. **Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the SHA and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.

8. **Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.

c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

9. **Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and

(4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $10,000 or more.)

a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of $10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding $2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. **General:**

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual

relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.

c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. **Classification:**

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) the additional classification is utilized in the area by the construction industry;

(3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) with respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. **Payment of Fringe Benefits:**

a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

4. **Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:**

a. Apprentices:

(1) Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

(2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality

other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

(3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

(1) Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.

(4) In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Helpers:

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

5. **Apprentices and Trainees (Programs of the U.S. DOT):**

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

6. **Withholding:**

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the SHA contracting officer may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

7. **Overtime Requirements:**

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. **Violation:**

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of $10 for each calendar day on which such employee was required or permitted to work in excess of the

standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. **Withholding for Unpaid Wages and Liquidated Damages:**

The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding $2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. **Compliance with Copeland Regulations (29 CFR 3):**

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. **Payrolls and Payroll Records:**

a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.

b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;

(2) that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;

(3) that each laborer or mechanic has been paid not less that the applicable wage rate and fringe benefits or cash equivalent for the classification of worked performed, as specified in the applicable wage determination incorporated into the contract.

e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than $1,000,000 (23 CFR 635) the contractor shall:

a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.

b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.

c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635).

a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

18 U.S.C. 1020 reads as follows:

> *"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans,*

maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;
Shall be fined not more that $10,000 or imprisoned not more than 5 years or both."

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $100,000 or more.)

By submission of this bid or the execution of this contract, or subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. **Instructions for Certification - Primary Covered Transactions:**

(Applicable to all Federal-aid contracts - 49 CFR 29)

a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.

d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.

f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and

d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

2. **Instructions for Certification - Lower Tier Covered Transactions:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions of $25,000 or more - 49 CFR 29)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Covered Transactions:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 - 49 CFR 20)

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

XII. Wage Rates Non-Applicable

XIII. Special Provisions and Supplemental Specifications

September 20, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 00555M

PROSECUTION AND PROGRESS

Add the following to section 1.9, LIMITATION OF OPERATIONS:

D. Do not allow traffic directly on rotomilled pavement. Provide a minimum of five inches of asphalt before allowing traffic on rotomilled pavement. In widened areas provide a minimum of five inches of asphalt over six inches of untreated base course before allowing traffic on the new surface.

E. Access:
1. Maintain access to all Kennecott and Praxair gates at all times.
2. Where possible provide one eleven foot lane in each direction for access to all Kennecott and Praxair gates. Where two lanes are not possible, provide one eleven foot wide lane and flaggers.

F. Notification:
1. Coordinate all work with Kennecott and Praxair. See plan sheets for contact information.

G. SR-201 from I-80 to SR-202 may be closed (excluding access to Kennecott and Praxair gates as mentioned above) for 60 days. Closure beyond 60 days will result in a $5000 per day penalty to the Contractor.

H. Penalty for Non-Compliance:
1. Failure to comply with any of the above limitations of operations results in the Department reducing payment to the Contractor.
2. The amount that the Contractor's compensation will be reduced per violation is calculated using the daily charge in the Schedule of Liquidated Damages in Table 1 of Section 00555 and will be assessed on a daily basis.

END OF SECTION

March 29, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 00725M

SCOPE OF WORK

Add the following to article 1.18 Paragraph C:

1. The Department does not accept VE proposals related to pavement section structure, strength or performance.

Delete article 1.18 Paragraph D and replace with the following:

D. The Department rejects proposals that provide equivalent options to those already in the contract.

Continued on next page.

Delete article 1.18 Paragraphs E – I and replace with the following:

E. The Department may reject proposals that:
   1. Contain revisions the Department is already considering or has approved for the Contract.
   2. Do not generate sufficient savings.
   3. Do not provide additional information as requested by the Department including requests for field investigation results and surveys, design computations, and field change sheet for proposed design changes.

F. If the proposal is rejected, the Contractor has no claim to additional costs or delays, including development costs, loss of anticipated profits, or increased material or labor costs.

G. The Engineer can reject all unsatisfactory work resulting from an approved proposal.
   1. Remove rejected work and reconstruct under the original contract provisions at no additional cost to Department.
   2. Reimbursement for modifications to the proposal to adjust field or other conditions is limited to the total amount of the contract bid prices.
   3. Rejection or limitation of reimbursement is not basis for any claim against the Department.

H. The Department does not consider savings generated by contingency items when it is reduced as part of a VECP, unless it can be tied to a reduction in contract time.

February 24, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 00820M

LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

Delete Article 1.16 and replace with the following:

1.16 INSURANCE REQUIREMENTS

A. Contractor's Pollution Liability Insurance
   1. Provide contractor's Pollution Liability Insurance to cover pollution releases during construction with the following minimum limits:
      a. $5,000,000.00 Each Claim
      b. $5,000,000.00 Aggregate

B. Workers' Compensation Insurance
   1. Provide Workers' Compensation Insurance to cover full liability. As a minimum, comply with the statutory limits defined by the State of Utah.

C. General Liability Insurance
   1. Provide General Liability insurance with the following minimum limits of liability:
      a. $1,000,000 Bodily Injury and Property Damage – Each Accident
      b. $2,000,000 General Aggregate
      c. $2,000,000 Products and Complete Operations Annual Aggregate

D. Excess General Liability Insurance
   1. Provide Excess Liability Insurance with the following minimum limits:
      a. $1,000,000 Each Claim

E. Automobile Liability Insurance
   1. Provide Automobile Liability Insurance for claims arising from the ownership, maintenance, or use of motor vehicles involved in project work with the following minimum limits:
      a. $1,000,000 Combined single Limit Bodily Injury and Property Damage per Occurrence

F. Provide the following for all required liability insurance policies:
   1. Where and when applicable, name as insured, only in respect to work to be performed under this Contract, the State of Utah and all institutions,

agencies, departments, authorities, and instrumentalities, and while acting within the scope of their duties, all volunteers as well as members of governing bodies, boards, commissions, and advisory committees.

2. Coverage for the above insured is primary and not contributing.
3. Incorporate into the insurance policy this statement: “Insurance coverage is extended to include claims reported up to one year beyond the date of substantial completion of this Contract.”

G. Provide UDOT with certificates of insurance showing coverage as required above at the time the contract is executed and maintain the policy in force during the entire period of the Contract. The certificates will also state that the policies required are endorsed to give UDOT (the Engineer) not less than 30 days prior notice in the event of cancellation or change in coverage.

H. Regardless of the Contractor insurance requirements required in this section, insolvency, bankruptcy, or failure of any insurance company to pay all claims accrued does not relieve Contractor of any obligations.

I. Endorse all policies to include waivers of subrogation in favor of UDOT.

August 25, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 01280M

MEASUREMENT

Delete Article 1.3 and replace with the following:

1.3 GENERAL MEASUREMENT OF QUANTITIES

A. All work completed under the Contract is measured in U. S. Standard measure.

B. The methods of measurement and computations for determining quantities of material furnished and of work performed under the Contract are methods generally recognized as conforming to good engineering practice.

C. The Department measures and determines quantities of material furnished and work performed.

D. When the plan quantities for a specific portion of the work are designated to be the pay quantities for the Contract:
   1. They are the final quantities for which payment for such specific portion of the work will be made, unless the Engineer revises the plan dimensions.
   2. If revised dimensions result in an increase or decrease in the quantities of work, Department will revise the final quantities for payment in the amount represented by the authorized changes in the dimensions.

E. When requesting additional compensation on the basis of adjustment to quantities in the bid proposal for items paid as "plan quantity," provide all computations, plots, and supporting documentation necessary for the Engineer to evaluate and verify adjusted quantities.
   1. All work associated with providing computations, plots, and supporting documentation is at no cost to the Department, except:
      a. When the Engineer revises plan dimensions. Refer to Section 01280.
      b. When the adjusted quantity differs from the plan quantity by more than 10 percent, work required to provide computations, plots, and supporting documentation will be paid for as extra work.

F. Measurements for area computations:
   1. Longitudinal measurements: made horizontally.

2. Transverse measurements: the neat dimensions shown on the plans.

G. Computing volumes of excavation: Average end area method, or computer generated Digital Terrain Model (DTM) method, unless the Engineer and Contractor agree in writing to an alternate method.

H. Measure complete structure or structural unit, signal or lighting system, ("lump sum" work) unit to include all necessary fittings and accessories.

I. Structures: Neat lines shown on the plans or as altered to fit field conditions.

J. Standard manufactured items (fence, wire, plates, rolled shapes, pipe conduit, etc.), are identified by gauge, unit, weight, section dimensions, etc.
   1. Identification will be nominal weights or dimensions.
   2. Use industry-manufacturing tolerances, unless more stringently controlled by specifications.

K. Items measured by the foot, (pipe culverts, guardrail, underdrains, etc.): measure parallel with the base or foundations upon which structures are placed.

L. The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing: measured in fractions of inches.

M. Materials specified to be measured by the cubic yard may be weighed and converted to cubic yard for payment purposes, when requested by the Contractor and approved by the Engineer in writing. Engineer determines and Contractor agrees to the factors for conversion from weight measurement to volume before this method of measurement of pay quantities is used.

N. Rental of equipment: measure hours of actual working time and necessary traveling time of the equipment within the limits of the project.
   1. If the Engineer orders special equipment in connection with force account work, the Department measures travel time and transportation to the project.
   2. If the Engineer orders equipment held on the project on a standby basis, the Department pays the agreed rental rate minus the operating cost.

Delete Article 1.10

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SECTION 01282M

PAYMENT

Add the following to Part 1, Article 1.1:

D. Section 01284: Prompt Payment

Delete Article 1.14, paragraph E and replace with the following:

E. From the total value of work, the Department deducts and retains five percent until after the entire Contract has been completed in an acceptable manner, with the following exceptions:
   a. Retention for subcontracted work paid upon satisfactory completion and acceptance by the Department. Refer to Section 01284.
   b. When no less than 95 percent of the work has been completed, and with the consent of the Surety, the Engineer may prepare a semi-final estimate from which the Department retains 1½ percent of the original contract amount. The Department certifies the remainder for payment, less all previous payments.

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SECTION 01284

PROMPT PAYMENT

Add Section 01284:

PART 1 GENERAL

1.1 SECTION INCLUDES

A. This section applies only to Federal-Aid Contracts.

B. Requirements applicable to Contractors, subcontractors, service providers, material suppliers, and all tier subcontractors, service providers, and suppliers.

1.2 PROGRESS PAYMENTS

A. Include in subcontract, service, or purchase agreement language agreeing to pay promptly as required by this specification.

B. Pay subcontractors for satisfactory performance of sublet work, no later than 10 working days after receipt of payment by the Department.
   1. Certify that payment has been made to all subcontractors for the work performed and paid for on the most recent Department pay estimate.
   2. Provide documentation showing Department estimate number, bid item, quantities, and dollar amounts paid to subcontractors, including payments for contract bid items that are partially sublet.

C. Pay Material Suppliers and Service Suppliers within 30 calendar days after receipt of payment for work that includes materials and or services.

D. Submit the following to the Engineer within five working days after paying subcontractor(s), service provider(s), or material supplier(s):
   1. A certified statement in the form of an affidavit on letterhead, including the signature of a legally responsible official, certifying:

a. That payment of the total dollar amount paid to each entity has been made in accordance with all requirements of the contract and special provisions, and

b. That the dollar amount paid is the total amount due for work or services performed or materials purchased through the most current pay estimate.

1.3 RETAINED MONEY

A. Include in subcontract, service, or purchase agreement language agreeing to pay retained money for subcontract, service, or purchase agreement upon satisfactory completion of the work and acceptance by the Department.

B. For purposes of this Section, a subcontractor's work is considered satisfactorily completed when all work included in the subcontract is complete, in accordance with all requirements of the contract, and documented as required by the recipient. When a recipient has partially accepted a portion of the work, that portion of work performed is considered to be satisfactorily completed.

C. Require written notification from the subcontractor when all subcontract items are complete.
   1. Notify the Engineer in writing within two working days after written notification from the subcontractor.
   2. The Engineer schedules and coordinates an inspection for acceptance of the work within three working days.
   3. Receive notification from the Department in writing when the work is considered to be satisfactorily complete and accepted. Acceptance of the work includes all requirements of the contract and agreement on pay quantities.
   4. Upon acceptance of the work, the Department releases an amount equal to the subcontractor's retainage. Submit to the Engineer a certified statement:
      a. In the form of an affidavit on letterhead, including the signature of a legally responsible official, and the signature of a legally responsible official for the subcontractor, certifying that the total amount due is the total retention.

D. Pay retained money owed to the subcontractor for satisfactory completion of the accepted work no later than 30 calendar days after receipt of payment from the Department.

E. Submit to the Engineer within five workdays after making payment a certified statement:
   1. In the form of an affidavit on letterhead, including the signature of a legally responsible official, certifying that the total amount paid is the total amount of retained money paid.

F. A determination of satisfactory completion and payment of retained money does not relieve any contractual obligation.

1.4 DELAY OF PAYMENT

A. Delay payment only for cause, with prior written notice to all parties, to include the Department.

B. Provide subcontractor 10 working days from date of written notification to correct deficiencies.
   1. Release payment upon receipt of documentation demonstrating correction of deficiencies within 10 working days.

C. Engineer may withhold dollar amount of delayed payment from future estimates.

D. Include in subcontract, service, and purchase agreements, language providing for the use of appropriate alternative dispute resolution mechanisms to resolve time of payment disputes.

E. Department may hold disputed funds in escrow until the dispute is resolved.

1.5 LIQUIDATED DAMAGES

A. Upon determination by the Department of failure to make prompt payment the Engineer will provide written notification to the Contractor. Resolve the failure and make prompt payment within three working days.

B. Failure to resolve prompt payment results in the assessment of $250 per each working day, per violation, commencing from the date of the written notification until proof of payment is received.

C. Proof of payment is defined as providing confirmation from the subcontractor that payment has been received.

D. Department considers the failure to make prompt payment an indication of a lack of financial fitness. The following additional measures may be imposed as necessary:
   1. Forfeit the privilege of bidding on Department projects until payment covered by this Section is made.
   2. Forfeit the privilege of having a subcontract, supply or purchase agreement approved to perform work or supply materials on Department projects until payment covered by this Section is made.

E. Department employs other mechanisms, consistent with this Section and applicable state and local law, so payment is fully and promptly made.

1.6 CONTRACTOR INCENTIVE ENTITLEMENT

A. Two hundred fifty dollars will be paid to Prime Contractor for each subcontractor provided the following criteria is met:
   1. Worked on the project.
   2. All prompt payment statements submitted to the project office within five working days after payment to subcontractors.
   3. Department received no valid complaints regarding prompt payment.
   4. Payment within 30 days after project has reached physical completion.

PART 2 PRODUCTS **Not used**

PART 3 EXECUTION **Not used**

END SECTION

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SECTION 01452M

PROFILOGRAPH AND PAVEMENT SMOOTHNESS

Delete Article 3.1, paragraph B1 and replace with the following:

1. Incentive/Disincentive applies only to Class I surfaces for each pavement section defined in this Section, Article 1.5, paragraph B.
   a. Incentive/Disincentive is calculated according to Table 2, with partial sections prorated based on length.
   b. Incentive/Disincentive does not apply to HMA surfaces on projects requiring OGSC or SMA.
   c. Any section requiring grinding exceeding 20 yd^2 does not qualify for incentive. Disincentive remains applicable for sections where grinding exceeds 20 yd^2.

January 1, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 01557S

MAINTENANCE OF TRAFFIC (MOT)

PART 1 GENERAL

1.1 SECTION INCLUDES

A. MOT Maintainer

B. Maintenance of Traffic (MOT) plans, Materials, and labor necessary for implementation.

C. Variable message signs and construction signs

1.2 RELATED SECTIONS

A. Section 00555: Prosecution and Progress

B. Section 01554: Traffic Control

C. Section 02891: Traffic Signs

1.3 REFERENCES

A. Manual on Uniform Traffic Control Devices, Latest Edition (MUTCD).

B. American Traffic Safety Services Association (ATSSA)

1.4 DEFINITIONS

A. Maintenance of Traffic (MOT) is defined as the work necessary to advise the public of changes to normal traffic flow, and to indicate planned detours and alternate routes to closed roads. Use solely as advisory information to the public.

1.5 POST-BID REQUIREMENTS

A. Department provides MOT plans to be implemented as part of the bid package.

B. Attend a mandatory meeting as detailed in Section 01554.

C. Attendees of the mandatory meeting will review the Contractor's submitted traffic control plans and the Department's supplied MOT plans for compatibility. Modify plans where necessary, as set forth in Section 01554.

D. Do not begin work on the project until written approval of any modified MOT plan is received from the Engineer. No item of work can begin until the approved MOT plan is implemented for that phase of work.

1.6 MOT MAINTAINER

A. The Traffic Control Maintainer, as specified in Section 01554 is responsible for maintenance of MOT on the project. The Department makes no separate payment for maintenance of MOT.

B. Inspect MOT devices daily for compliance with the MOT plans. Submit daily inspection reports on a form acceptable to the Engineer.

1.7 MAINTENANCE OF MOT DEVICES

A. Maintain traffic control devices per Section 01554.

1.8 WAGE RATES FOR TRAFFIC CONTROL PERSONNEL (FEDERAL AID JOBS ONLY)

A. Refer to Section 01554 for wage rate information.

1.9 PAYMENT PROCEDURES

A. Partial Payments - Based on the percentage of the project completed, excluding the cost of MOT.
   1. Failure to comply with any of the requirements of this special provision will result in non-compliance.

B. Price Adjustments:
   1. The Department reduces payment if the MOT implemented is not in compliance with the approved MOT plan, as determined by the Engineer.

2. The amount per day by which the Contractor's compensation will be reduced is calculated using the greater of the following:
    a. The daily charge in the Schedule of Liquidated Damages found in Section 00555 or
    b. The Contract lump sum bid price for MOT divided by the number of Contract days.

C. Payment for change in scope: Negotiate a price adjustment for MOT if the Engineer orders a change in the scope of work that requires modification to the approved MOT Plan.

PART 2 PRODUCTS

2.1 SIGNS

A. Refer to Section 02891.

B. Use type and configuration as directed by the MOT plans.

2.2 VARIABLE MESSAGE SIGNS (VMS)

A. Advance warning device
1. Conform to guidelines set forth in Section 6F-2 of the MUTCD.
2. Messages can be changed on-site and by dial-up modem

PART 3 EXECUTION

3.1 MODIFICATION OF MOT PLANS

A. Engineer may modify the MOT plans at any time.

B. Implement changes to the MOT plan before the end of the work shift.

C. Each phase of construction must be covered by an approved MOT plan. If a construction phase is proposed that is not covered by a Department supplied MOT plan, submit a proposed MOT plan to the Engineer for approval.
1. Submit proposed MOT plan to the Engineer 10 working days before the proposed MOT plan is to be implemented.
2. Do not begin work until the proposed MOT plan is approved for use, and has been fully implemented.

3.2 TRAFFIC CONTROL DEVICES

A. Installation and Maintenance:
   1. Install appropriate devices for each construction phase as identified in the appropriate MOT plan.
   2. Maintain devices to provide proper, continuous functionality.
   3. Wash devices weekly unless conditions warrant more frequent cleaning as directed by the Engineer.
   4. Replace any device missing any part of the message or background.

B. Channelizing Devices: Use as directed by the MOT plan.
   1. Furnish a daily record of the number and location of all traffic control devices in use.
   2. Remove devices from the site of work when they are not needed for the immediate control of traffic.

3.3 VARIABLE MESSAGE SIGN (VMS)

A. The Department retains control of messages appearing on the VMS. Do not change the location or the message configuration of the VMS unless directed to by the Engineer in writing.

B. Place in view of oncoming traffic without obstructing traffic flow. Relocate VMS to match field conditions at no additional cost to Department.

C. Provide dial-up modem number to the Engineer.

D. Use necessary traffic control devices with VMS to provide safe operation.

E. Remove devices from the site of work when they are not needed for the immediate control of traffic.

F. Unless directed by the Engineer, display advance notification VMS messages for a minimum of 7 days prior to any traffic impacts such as start of work, change in traffic directions, etc. at each end of the project.

G. Make two VMS signs available at all times during the project to be used as directed by the Engineer at no additional cost to the Department.

3.4 COORDINATION OF SIGNAL OPERATIONS

A. Notify the Engineer seven days prior to implementing a MOT plan (detour plans and alternate route plans) or any traffic control plan that impacts signal operations to allow the Engineer to coordinate any necessary signal timing adjustments with the TOC (Traffic Operations Center).

B. Changes to traffic signal operations will be done by the Department.

END OF SECTION

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SECTION 01571

TEMPORARY ENVIRONMENTAL CONTROLS

Delete Section 01571 and replace with the following:

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Requirements for controlling erosion on the construction site and diminish the amount of sediment leaving the site, and related areas under the Contractor's control.

B. Requirements for installing, maintaining, and removing temporary erosion control measures.

1.2 RELATED SECTIONS

A. Section 01574: Environmental Control Supervisor

B. Section 02373: Riprap

C. Section 02610: Pipe Culverts

D. Section 02613: Culvert End Sections

E. Section 02922: Seed, Turf Seed, and Turf Sod

1.3 REFERENCES

A. AASHTO M 288: Geotextile Specifications for Highway Applications.

B. Storm Water Pollution Prevention Plan (SWPPP)

1.4 TYPES

Refer to EN series Standard Drawings for all types.

A. Check Dam:
   1. A temporary fiber roll or stone structure that is placed across a ditch to intercept and pond sediment-laden runoff, thereby reducing the water velocity and allowing suspended sediment to settle. Constructed so water will flow over a low point in the middle of the dam and not around the sides.

B. Silt Fence:
   1. A geotextile fabric fence installed to intercept and pond sediment-laden sheet flow runoff allowing suspended sediment to settle.

C. Slope Drain:
   1. A polyethylene pipe placed on a slope that collects and transports storm runoff down the face of a slope and is used until permanent drainage facilities are installed or vegetation growth is adequate.

D. Temporary Berm:
   1. A ridge of compacted soil, with or without a shallow ditch that diverts storm runoff from a recently constructed slope to a controlled release point.

E. Drop-Inlet Barrier:
   1. A fiber roll, silt fence, or stone barrier placed around a drop-inlet that intercepts and ponds sediment-laden runoff allowing suspended sediment to settle. If the pond height reaches the top of the barrier, water flows over the barrier and into the drop-inlet.

F. Pipe Inlet Barrier:
   1. Consists of a horseshoe-shaped barrier protecting a pipe inlet that intercepts and ponds sediment-laden runoff before it enters a pipe allowing suspended sediment to settle.

G. Curb Inlet Barrier:
   1. A protective barrier placed across a curb inlet that intercepts and ponds sediment-laden runoff before it enters a curb inlet.

H. Sediment Trap:
   1. An excavated basin, usually installed at low points on a construction site, that intercepts and ponds sediment-laden concentrated flows allowing suspended sediment to settle.

I. Stabilized Construction Entrance:
   1. A layer of rock placed at a construction site entrance that removes mud from vehicle tires before they leave the construction site and drive onto a paved road.

J. Straw Bale Barrier:
   1. Consists of straw bales butted end to end and used in active construction areas where a silt fence would fail. Installed to intercept and pond sediment-laden sheet flow runoff allowing suspended sediment to settle.

PART 2 PRODUCTS

2.1 MATERIALS

A. Check dams:
   1. Fiber Roll:
      a. Fiber Roll: Contact Engineer for Approved Products List of Fiber Roll Products. Approved list is updated annually.
      b. Wood stakes: commercial quality lumber 2-inch square (nominal) by 3 feet.
      c. Channel Liner: Contact Engineer for Approved Products List of Channel Liners. Approved list is updated annually.
   2. Stone: Well-graded within 2 to 6 inches in diameter.

B. Silt Fence:
   1. Silt Fence Fabric: See AASHTO M 288 (Table 6 – Temporary Silt Fence Property Requirements).
   2. Wood Post: commercial quality lumber, 2-inch square (nominal) by 4 feet in length.
   3. Fasteners: Staples, wire, zip ties, or nails sufficient to maintain the fabric's attachment to post.

C. Slope Drain:
   1. Pipe Culverts: Refer to Section 02610.
   2. End Section: Refer to Section 02613.
   3. 9-inch Loose Riprap: Refer to Section 02373.
   4. Wooden stakes: commercial quality lumber 2-inch square (nominal) by 3 feet.

D. Temporary Berm:
   1. Existing Soil.

E. Drop-Inlet Barriers:
   1. Fiber Roll: Refer to this Section.
   2. Stone: Well-graded within 2 to 6 inches diameter.
   3. Silt-Fence: Refer to this Section.
      a. Wood stud: 2 inches x 4 inches (nominal).

F. Pipe Inlet Barrier:
   1. Stone: Well-graded within 2 to 6 inches in diameter.

G. Curb Inlet Barrier:
   1. Concrete Building Blocks.
   2. Stone: Well-graded within 2 to 6 inches diameter
   3. Wire Mesh: 0.5 inch by 0.5 inch openings.
   4. Wood stud: 2 inches x 4 inches (nominal).

H. Sediment Trap:
   1. 9-inch Loose Riprap: Refer to Section 02373.

I. Stabilized Construction Entrance:
   1. Stone: Well-graded within 2 to 3 inches in diameter.

J. Straw Bale Barrier:
   1. Standard Straw Bales: Obtained from weed free fields that have been certified by the Utah Department of Agriculture.

PART 3 EXECUTION

3.1 PREPARATION

A. Follow the Storm Water Pollution Prevention Plan (SWPPP) in the plan set.
   1. Address in the SWPPP all disturbed areas on a project including staging areas, haul roads, borrow sites, stockpiles, and disposal areas.
   2. If SWPPP is not provided in the plans, create and submit a plan to the Engineer for approval.
   3. Obtain written approval from the Engineer to change the SWPPP.

B. Designate an Environmental Control Supervisor (ECS) who will:
   1. Work directly with the Department SWPPP coordinator designated by the Engineer.
   2. Be available as needed to coordinate the SWPPP, inspect and maintain sediment control devices, and resolve other issues.

C. Do not start earth-disturbing work until SWPPP is approved, and appropriate temporary erosion and sediment control measures are in place.

D. Use the most restrictive requirement if a conflict occurs between erosion and sediment control specifications and federal, state, or local agency's laws, rules, or regulations.

3.2 INSTALLATION

A. Provide or construct measures such as check dams, silt fence, slope drains, drop-in inlet barriers, sediment traps, and other erosion control devices or methods to reduce erosion and sedimentation during construction or shutdown periods.

B. Follow installation procedures outlined in the EN Series Standard Drawings.

3.3 INSPECTIONS

A. Inspect all denuded areas during construction to determine potential erosion problems. Pro-actively apply corrective measures in a timely manner as required.

B. Inspect all sediment retention structures. Refer to Section 01574.

3.4 MAINTENANCE

A. Maintain temporary sediment control devices to ensure they function properly until all disturbed areas draining to them are stabilized.

B. Remove and properly dispose of sediment when it has accumulated half way up the overall structure height or it interferes with the performance of the structure.

C. Dispose of sediment removed from erosion control structures in a manner acceptable to the Engineer.

3.5 REMOVAL

A. All costs associated with Removal are incidental to other items of work and no separate measurement or payment will be made.

B. After all seeding and mulching has been placed and just before final closeout of the project, remove any remaining sediment from behind and around erosion control features and remove all temporary erosion control features unless directed differently by the Engineer.

C. Seed areas where the sediment was removed following Section 02922.

END OF SECTION

Supplemental Specification
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SECTION 01574M

ENVIRONMENTAL CONTROL SUPERVISOR

Delete Article 1.1 and replace with the following:

1.1 SECTION INCLUDES

A. Description of the responsibilities of the Contractor's Environmental Control Supervisor (ECS) to administer environmental compliance on the project.

B. When no bid item is included in the proposal for "Environmental Control Supervisor" then this section does not apply.

Add Article 1.3, paragraph B:

B. Utah Storm Water General Permit for Construction Activities

Add Article 3.1, paragraphs F and G

F. Know what is contained in Utah Storm Water General Permit for Construction Activities – Permit No.: UTR100000 and comply with the outlined conditions. Refer to http://www.udot.utah.gov/index.php/m=c/tid=719.

G. When a U.S. Army Corps of Engineers Nationwide or Individual Permit or a Utah Division of Water Rights Regional General Permit 40 is issued on a project, know and follow the General and Special Conditions associated with these permits.

August 25, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 01721M

SURVEY

Delete Article 1.1, Paragraph A., and replace with the following:

A. Schedule, coordinate, and provide all construction surveying, staking, measurement, and calculations essential to complete the project and properly control the entire work.

Delete Article 1.5, Paragraph F and G and replace with the following:

F. After project completion, return to the Engineer all surveying and design data and provide a red-lined hard copy plan set showing as-constructed features denoting changes from the original design.

Delete Article 3.3, Paragraph C.

Delete Article 3.11, and replace with the following:

3.11 GUARDRAIL AND CRASH CUSHION

A. Stake guardrail vertical and horizontal control at a maximum spacing of 25 ft on tangent sections and 10 ft on curved sections unless otherwise approved.

B. Obtain Engineer's approval and field verification of staking prior to installation.

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SECTION 01721M

SURVEY

Delete Article 1.2, and replace with the following:

1.2 RELATED SECTIONS

A. Section 01280: Measurement

B. Section 02765: Pavement Marking Paint

August 31, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 02056M

COMMON FILL

Delete Article 2.1, and replace with the following:

2.1 BORROW

A. Classification A-1. Meet AASHTO 145.

B. Non-plastic, passing a 6 inch sieve (maximum size).

August 10, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 02221M

REMOVE STRUCTURE AND OBSTRUCTION

Add the following SECTIONS to PART 3 EXECUTION:

3.22 REMOVE CONCRETE BARRIER

A. Remove and dispose of concrete barrier.

3.23 REMOVE AND SALVAGE CRASH CUSHION

A. Salvage and deliver crash cushion and hardware to:
UDOT Maintenance Station 2424
5791 West 2100 South
West Valley City, Utah 84120

B. Contact UDOT Maintenance Station 2424 (Ted Bair, Foreman), Telephone 801-972-2531, prior to delivery of concrete barrier.

C. Grind off bolt stubs flush with PCCP surface.

END OF SECTION

August 31, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 02317M

STRUCTURAL EXCAVATION

Add the following Paragraph to Article 3.3, BACKFILL AND COMPACTION:

3.3 BACKFILL AND COMPACTION

H. Backfill Pipes.

1. Use Granular borrow or Granular Backfill Borrow for backfill in zone of pipe up to the Granular Borrow for pavement thickness.

June 30, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 02610S

PIPE, PIPE-ARCH, STRUCTURAL PLATE PIPE, AND STRUCTURAL PIPE ARCH

Delete Section 02610 in its entirety and replace with the following:

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Materials and procedures for installing pipe.

B. Class, type, size, and thickness designations.

C. Asphalt coating for pipe.

1.2 RELATED SECTIONS

A. Section 00820: Legal Relations and Responsibility to Public

B. Section 02317: Structural Excavation

C. Section 02330: Embankment

D. Section 03055: Portland Cement Concrete

E. Section 03310: Structural Concrete

1.3 REFERENCES

A. AASHTO M 36: Corrugated Steel Pipe, Metallic-Coated, for Sewers and Drains

B. AASHTO M 55: Steel Welded Wire Fabric, Plain, for Concrete Reinforcement

C. AASHTO M 86: Concrete Sewer, Storm Drain, and Culvert Pipe

D. AASHTO M 167: Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches

E. AASHTO M 170: Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe

F. AASHTO M 190: Bituminous Coated Corrugated Metal Culvert Pipe and Pipe Arches

G. AASHTO M 196: Corrugated Aluminum Pipe for Sewers and Drains

H. AASHTO M 197: Aluminum Alloy Sheet for Corrugated Aluminum Pipe

I. AASHTO M 198: Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants

J. AASHTO M 207: Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe

K. AASHTO M 219: Corrugated Aluminum Alloy Structural Plate for Field-Bolted Pipe, Pipe-Arches, and Arches

L. AASHTO M 243: Field Applied Coating of Corrugated Metal Structural Plate for Pipe, Pipe Arches, and Arches

M. AASHTO M 245: Corrugated Steel Pipe, Polymer Precoated, for Sewers and Drains

N. AASHTO M 246: Steel Sheet, Metallic-Coated and Polymer Precoated for Corrugated Steel Pipe

O. AASHTO M 274: Steel Sheet, Aluminum-Coated (Type 2), for Corrugated Steel Pipe

P. AASHTO M 294: Corrugated Polyethylene Pipe, 300- to 1500-mm Diameter

Q. AASHTO M 304: Polyvinyl Chloride (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter

R. AASHTO Standard Specifications for Highway Bridges

S. ASTM A 849: Post-Applied Coatings, Pavings, and Linings for Corrugated Steel Sewer and Drainage Pipe

T. ASTM C 828: Standard Test Method for Low Pressure Air Test of Vitrified Clay Pipe Lines

U. ASTM C 924: Standard Practice for Testing Concrete Pipe Sewer Lines by Low-Pressure Air Test Method

V. ASTM C 969: Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Sewer Lines

W. ASTM C 1103: Standard Practice for Joint Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines

X. ASTM D 1784: Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds

Y. ASTM D 3212: Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals

Z. ASTM D 3350: Standard Specification for Polyethylene Plastics Pipe and Fittings Materials

AA. ASTM F 477: Elastomeric Seals (Gaskets) for Joining Plastic Pipe

BB. ASTM F 1417: Standard Test Method for Testing Installation Acceptance of Plastic Gravity Flow Sewer Lines Using Low Pressure Air

CC. Utah Occupation Safety and Health Regulations

1.4 DEFINITIONS

A. Pipe and Pipe Arch are identified according to diameter or by span and rise, the following definitions, and according to corrosion class as shown in this Section and in Section 2.1:

1. Cross Culvert – A transverse drain, covered with embankment, which allows surface runoff to pass under the embankment.
2. Storm Drain – A closed conduit or waterway that collects and conveys storm runoff, which has drainage structures at the ends of individual pipe runs such as catch basins, drop inlets, man-holes, endwalls and other similar features by gravity flow.
3. Irrigation Pipe – A pipe designed to carry seasonal irrigation water by gravity flow.
4. Damage to pipe - Pipe damage is considered any defect that compromises the longevity or functionality of the installation.

B. Corrosion Classification:
   1. Class A: Pipe used in mostly non-reactive soils, which require no special materials, treatments, or coatings.
   2. Class B: Pipe used in moderately reactive and corrosive soils.
   3. Class C: Pipe used in soils which are highly reactive and corrosive.
   4. Class D: Untreated structural plate pipe used in mostly non-reactive and non-corrosive soils.
   5. Class E: Structural plate pipe used in highly reactive and corrosive soils.

C. Other useful definitions:
   1. Cover – The vertical extent of soil above the crown of the pipe or culvert (see DG series of the standard drawings).
   2. End Section – A structure commonly made of steel or concrete, that is attached to one or both ends of a culvert or a pipe to retain the embankment, improve appearance, provide anchorage, improve discharge and limit scour at the opening.
   3. Headwall – A structure, commonly made of concrete, placed at the end of culvert inlet or outlet or storm drain outlet, to anchor the pipe, to retain the highway embankment near the pipe end and to protect the pipe ends from bank erosion and channel bed scour.
   4. Invert – The floor, bottom, or lowest part of the internal cross section of a culvert, conduit or storm drain.
   5. Paved Invert – Lining of concrete, bituminous or other materials, placed in the invert to protect the invert from abrasion and/or to improve the culvert hydraulics.
   6. Rise – The vertical height dimension of a box, pipe arch, and arch structure.
   7. Skew – The angle between a line perpendicular to the roadway centerline and the longitudinal direction of the culvert barrel.
   8. Soffit – The inside top or roof of a culvert, conduit or storm-drain pipe.
   9. Span – The horizontal dimension of a box culvert, pipe arch, or arch structure.

1.5 SUBMITTALS

A. Provide a manufacturer's Certificate of Compliance showing that furnished pipes meet or exceed the requirements in Article 2.5 paragraph A.1 of this section.

B. Provide certification that the company manufacturing HDPE pipe is enrolled in the National Transportation Product Evaluation Program (NTPEP) and that the particular pipe size they are furnishing has been tested and meets AASHTO minimum requirements for HDPE pipe.

C. Furnish a Certification of Compliance from the manufacturer certifying coating thickness.

1.6 ACCEPTANCE CRITERIA

A. General

1. Pipes are accepted according to the criteria outlined in this section. Perform the acceptance testing, or use the services of a UDOT approved third party testing company.
2. Pipes are accepted after verification that the following elements meet the specification's requirements:
   a. Horizontal and vertical alignment deviations
   b. Barrel distortion
   c. Damage to the pipe
   d. Joints
   e. Coating integrity
3. Repair according to manufacturer recommendations as approved by the Engineer. Repair any pipes with damage that compromises the longevity or functionality of the installation. Remove and replace any pipe that can not be repaired to reasonably meet the design criteria and function.

B. Requirements

1. Horizontal and vertical alignment deviations
2. Remove and reinstall all pipes that exceed the alignment tolerances shown in Table 1.

Table 1 - Tolerances

Installation Alignment Tolerances		
Design Grade	**Horizontal Deviation**	**Vertical Deviation ***
		inches/100feet
> 1 %	Horizontal joint deflections not to exceed industry standards	1 1/2
≤ 1 %		1
< 0.5 %		± 0.5

* For cross culverts increase tolerance by 50 percent.

3. Joints
   a. Cross Culverts - Provide pipes with joints that pass a 3-psi pressure test in the laboratory according to Article 2.5 paragraph A of this section.
   b. Storm Drains – Provide pipes with joints that pass a 5-psi pressure test or any other pressure requirements specified in the plans. Test pipes according to Article 2.5 paragraph A of this section.

c. Irrigation pipe – Provide pipes with joints that pass laboratory tests for 5 psi or any other pressure requirements specified in the plans.
d. Pipe arches and structural plate pipes are installed per manufacturer's recommendations and are not pressure rated.

4. Allowable distortions – Provide installed pipes that do not have ovaling or distortions greater then 5 percent of the nominal pipe diameter. Measure distortions using a mandrel or directly. For nominal pipe diameter larger than 48 inches, use measured diameter to calculate the 5 percent tolerance limit.

C. Inspection and testing

1. The inspection and testing is divided into two categories:
   a. Cross Culverts
   b. Storm drains and irrigation pipes.
2. Table 2 shows the inspection and testing required according to pipe category. Inspect and/or test with the Engineer or his representative present, the cross culverts, storm drains, and irrigation pipes installation prior to placing the roadway pavement.

Table 2 - Pipe Testing Requirements According to Pipe Function.

Pipe Category and Size	Visual		Physical		Leakage
	Sight	Video Recording	Manual Measure	Mandrel See Sec. 1.6.C4	Air or Water Test
Cross Culverts ≤ 48-inch dia.		X*	X*	When visual shows non compliance with criteria in this section	
Cross Culverts > 48-inch dia.	X		X		
Storm Drains/Irrigation Pipes ≤ 48-inch dia.		X*	X*	When visual shows non compliance with criteria in this section	When visual test shows non compliance with criteria in this section
Storm Drains/Irrigation Pipe > 48-inch dia.	X		X		When visual test shows non compliance with criteria in this section

* Both methods are acceptable for pipes with diameters larger than 30-inches

3. Inspect 25 percent of all the cross culvert, storm drain installations, and irrigation pipe units, selected by the Engineer. Round to the highest whole unit. Test any pipes with apparent defects as directed by the engineer. The Department will pay the cost of any requested additional tests that show the pipe tested being in compliance with the criteria in this section.
4. Sample Unit
    a. The unit for pipes used for cross-culverts is the entire length of the cross culvert
    b. The unit for pipes used for closed conduits, such as storm-drains and irrigation pipes is the entire length of pipe between manholes or other junction structures.
5. Visual Inspection
    a. Visually inspect pipes as required in Table 2, with an Engineer's representative. Follow OSHA requirements for inspecting confined entry spaces.
    b. Provide and use a mobile color video camera with an appropriate light to show the interior of the pipe that is able to move inside the pipe barrel and be controlled remotely by the inspector, to inspect installed pipes as required in Table 2.
    c. Provide a remote monitor and a recording apparatus for the camera, to view and record the condition of the installed pipes.
    d. Provide a digital copy of the pipe inspection video recording to the Engineer.
6. Mandrel Test

    When visual inspection documents pipe deformation of concern, the Engineer can require a mandrel test according to the following criteria.
    a. Test pipe by hand pulling a fabricated mandrel through the sample unit.
    b. Provide and use mandrels to verify that the installed pipes meet the specification requirements in Table 2 of this specification.
    c. Provide the following:
        1) A mandrel, acceptable to the Engineer.
        2) A mandrel with an effective diameter equal to 95 percent of the nominal inside diameter.
        3) A proving-ring to verify mandrel size.
        4) A mandrel with a minimum of nine equally spaced runners (40 degree angles).
7. Manual Measurement
    a. Measure manually any distortions (deflections) of pipes as indicated in Table 2 and verify in the presence of the Engineer or his representative that the installed pipes sample meet the criteria in Table 2.

8. Joint Test (for Strom Drains and Irrigation Pipes only)
In addition to the inspection requirements in Article 1.6 paragraph C of this section, test units with diameters equal to or less than 42 inches when visual inspection indicates noncompliance with the criteria in this section. Test all pipes that have joints showing visible gaps, defects, or any other problem according to one the following testing methods:

a. Air Test
Test individual joints according to ASTM C 1103.
Concrete Pipe – Test according ASTM C 924.
Plastic Pipe – Test according to ASTM C 828 or C 924 or F 1417 and manufacturer's recommendations.

b. Exfiltration Test
Test all pipe material types according to AASHTO M 86 and ASTM C 969. Maintain head for one hour. Do not exceed leakage values in Table 3. Locate source or sources of leakage and repair damaged storm drain or irrigation system that does not pass the test.

Table 3 - Leakage Test Allowances

Nominal Pipe Diameter (Inches)	Maximum Leakage Allowed (Gal/hr/100 feet)
18	4.5
24	6
30	7.5
36	9
42	10.5
48	12

D. Quality Assurance

1. Repair or replace damaged or improperly installed pipes in a sample unit at the direction of the Engineer.
2. Repair according to manufacturer's recommendations pipes that fail the Joint Test in Article 1.6 paragraph C at no cost to the Department. Retest the repaired pipes. Remove and replace pipes if they fail retest.
3. Provide engineering analysis certifying the structural and hydraulic integrity of the pipe, stamped by a professional engineer registered in Utah, for all pipes that fail the mandrel test and that do not exceed 10-percent deflections, to the Resident Engineer and Central Hydraulics for the pipe acceptance.
4. Apply the pay reduction schedule in Table 4, for sample units left in place that have pipes that do not meet mandrel test requirements, if an engineering analysis is not performed:

Table 4 - Payment Reductions

PIPE DEFLECTION MEASURED	
Amount of Deflection (%)	Payment
0.0 to 5	100% of the Unit Bid Price
5.1 to 9.9	75% of the Unit Bid Price
10 or greater	Remove and Replace

5. Remove and replace all pipes that exceed 10-percent deflections.

PART 2 PRODUCTS

2.1 PIPE CORROSION CLASSIFICATION

A. Pipe Corrosion Classes:
   1. Class A: Pipe used in mostly non-reactive soils that require no special materials, treatment, or coating.
   2. Class B: Pipe used in moderately reactive and corrosive soils.
   3. Class C: Pipe used in soils which are highly reactive and corrosive.
   4. Class D: Untreated structural plate pipe used in mostly non-reactive and non-corrosive soils.
   5. Class E: Structural plate pipe used in highly reactive and corrosive soils.

B. Pipe Class Substitutions: May be made at no additional cost to the Department.
   1. Class B and C may be substituted for Class A.
   2. Class C may be substituted for Class B or A.
   3. Class E may be substituted for Class D.

C. Refer to Table 5.

Table 5 - AASHTO Reference Specifications for Pipe

Pipe Type		Pipe Class				
		A	B	C	D	E
Substitutions: Class B and C may be substituted for Class A, Class C may be substituted for Class B or A, Class E may be substituted for Class D.						
1.0	**Corrugated Pipe and Pipe Arch:**					
1.1 1.1(a)	Corrugated steel pipe. Corrugated steel pipe arch. **(1)**	M 36	M 36 Asphalt Coating (Type A) M 190 OR Polymeric Coating 0 µm (inside) / 250 µm (outside) M 245 & M 246 ASTM A 849 or Aluminized Type II Steel M 274 (2)	M 36 Asphalt Coating (Type A) M 190 OR Polymeric Coating 250 µm (inside)/250 m (outside) M 245 & M 246 ASTM A 849	N/A	N/A
1.2 1.2 (a)	Corrugated aluminum pipe. Corrugated aluminum pipe arch. **(1)**	M 196 M 197	M 196 M 197	M 196 M 197	N/A	N/A
1.3	Corrugated polyethylene (HDPE) pipe	M 294 ASTM D 3350	M 294 ASTM D 3350	M 294 ASTM D 3350	N/A	N/A
2.0	**Smooth-Lined Pipe and Pipe Arch:**					
2.1	Concrete lined corrugated steel pipe (Use Type V cement. Refer to Section 03055)	M 36	M 36 Asphalt Coating (Type A) M 190 OR Polymeric Coating 250 µm (inside) /250 µm (outside) M 245 & M 246 ASTM A 849	M 36 Asphalt Coating (Type A) M 190 OR Polymeric Coating 250 µm (inside) /250 µm (outside) M 245 & M 246 ASTM A 849	N/A	N/A
2.2	Corrugated Polyethylene Pipe, 300- to 1500-mm Diameter	M 294 ASTM D3350	M 294 ASTM D3350	M 294 ASTM D3350	N/A	N/A
2.3	Smooth lined Polyvinyl chloride (PVC) pipe	M 304 Cell Class # 12454C ASTM D 1784	M 304 Cell Class # 12454C ASTM D 1784	M 304 Cell Class # 12454C ASTM D 1784	N/A	N/A
2.4 2.4 A	Asphalt smooth lined corrugated steel pipe Pipe arch	M 36	M 36 Asphalt Coating (Type D) M 190	M 36 Asphalt Coating (Type D) M 190	N/A	N/A

Pipe Type		Pipe Class				
		A	B	C	D	E
Substitutions: Class B and C may be substituted for Class A, Class C may be substituted for Class B or A, Class E may be substituted for Class D.						
2.5 2.5 a	Spiral rib steel pipe Spiral rib steel pipe arch	M 36	M 36 Asphalt Coating (Type A) M 190 OR Polymeric Coating 0µm (inside) / 250 µm (outside) M 245 and M 246, ASTM A 849 or Aluminized Type II Steel M 274 (2)	M 36 Asphalt Coating (Type A) M 190 OR Polymeric Coating 250 µm (inside)/250 µm (outside) M 245 and M 246 ASTM A 849	N/A	N/A
2.6	Spiral rib aluminum pipe and pipe arch	M 196 and M 197	M 196 and M 197	M 196 and M 197	N/A	N/A
2.7	Reinforced concrete pipe	M 170 Type II Cement	M 170 Type II Cement	M 170 Type V Cement required	N/A	N/A
2.8	Non-reinforced concrete pipe	M 86 Type II Cement	M 86 Type II Cement	M 86 Type V Cement required	N/A	N/A
2.9	Elliptical reinforced concrete pipe	M 207 Type II Cement	M 207 Type II Cement	M 207 Type V Cement required	N/A	N/A
3.0	**Structural Plate Pipe and Pipe Arch:**					
3.1	Structural steel plate pipe and pipe arch	N/A	N/A	N/A	M 167	M 167 M 243
3.2	Aluminum alloy structural plate pipe and pipe arch	N/A	N/A	N/A	M 219	M 219
Footnotes: (1) Minimum corner radii conforming to the details shown on the standard drawings. (2) Acceptable Soil Conditions, Class B, Aluminized Type II Steel are: 1.6mm minimum thickness of metal acceptable where pH is greater than 7 and less than 8.5, and soil resistivity is greater than 1500 ohm-centimeters.						

2.2 PIPE TYPES

A. Pipe, Pipe Arch, Structural Plate Pipe and Structural Plate Pipe Arch Types: Refer to Table 4.

2.3 RELATED PRODUCTS

A. Asphalt Coating: Furnish Material Class M-Mastic, either asphalt or tar base, cold applied. ASTM A 849.

1. Asphalt base mastic design criteria:
    a. Functions as a cool-applied waterproofing membrane.
    b. Provides a protective coating to aluminum or steel highly resistant to corrosion and chemical fumes.

c. Is not affected by freezing temperatures and does not flow in hot weather.
d. Has high cohesive strength and readily hardens in to a tough elastic seal after application.
e. Is mixed until the mineral stabilizers and fillers are uniformly dispersed. Follow AASHTO M 243.

2.4 PIPE SELECTION

A. At the preconstruction conference, declare choice of pipe, type, diameter and thickness to be used.

B. Use the same type and strength of concrete pipe or thickness of steel, aluminum, polyethylene or polyvinyl chloride (PVC) pipe for the entire run of pipe.

C. Use the maximum height of cover to determine the strength or thickness. Refer to the DG series Standard Drawings.

D. Do not use aluminum pipe when a paved invert is required, unless protective measures are taken. Follow this Article 3.7 paragraph C of this section.

E. Corrugated and smooth-lined high density polyethylene pipes: Use only HDPE Plastic Pipe up to 60-inch diameter that currently meets AASHTO M 294 requirements and is certified by AASHTO National Transportation Product Evaluation Program (NTPEP). Provide a copy of NTPEP test results to the Engineer.

F. Corrugated and smooth-lined PVC pipes: Use up to 36inch diameter.

G. Furnish Material Pipe Coating Class M-Mastic, either asphalt or tar base, cold applied. ASTM A 849.

H. Precast, non-reinforced concrete pipe: Use only 18-inch to 36-inch diameter.

I. Do not allow pipes of different types of metal to contact each other. Use matching materials to make direct extensions of existing pipes.

J. Do not use pipe containing longitudinal lap seams if watertight pipe or watertight joints are called for.

K. Do not use thermoplastic pipe manufactured without UV inhibitors approved by the Materials Engineer in applications subject to direct sunlight.

2.5 JOINTS OR COUPLING BANDS FOR PIPES

A. General:
   1. Furnish pipes with joints that can sustain 3 psi minimum pressure for all cross culverts, or 5 psi minimum pressure for all storm-drains and irrigation pipes, tested according to the proper AASHTO and ASTM test requirements by and independent lab or witnessed by a UDOT representative, for each pipe type.
   2. Comply with manufacturer's recommendations for connecting pipes and for connecting pipes to concrete headwalls, catch basins, and similar structures.

B. Concrete Pipes:
   1. Meet AASHTO M 198.

C. Metal Pipe:
   1. Refer to DG series Standard Drawings.
   2. Conform to AASHTO Standard Specifications for Highway Bridges and AASHTO M 36 or AASHTO M 245 with the following modifications:
      a. Use connecting bands of the same class as the pipe. Maintain a minimum thickness of 0.064 inch for the connecting bands.
      b. Use bands with projections (dimple bands) only in extension of existing pipes where annular corrugations do not exist.
      c. The ends of helically corrugated pipe must be re-rolled to form at least two full annular corrugations each before being joined.
      d. Use flat bands only when approved in writing by the Engineer.
      e. Follow DG series Standard Drawings.

D. Joints for Polyethylene (HDPE) Pipe: Unless otherwise specified, use standard joints conforming to Section 7, Requirements, and Section 9, Test Methods of AASHTO M 294 and tested in the lab in accordance with ASTM D3212.

E. Joints for PVC Pipes: Show no leakage when tested in accordance with ASTM D 3212. Meet ASTM F 477 for gaskets.

F. Provide HDPE joints that can sustain in the lab 5 psi minimum pressure for all cross culverts and 10 psi for all drainage and irrigation pipe and sewer pipes.

PART 3 EXECUTION

3.1 PREPARATION

A. Excavating, Trenching, Bedding and Backfill:
   1. Refer to Section 02317.
   2. Refer to DG series Standard Drawings.
   3. Comply with Utah Occupation Safety and Health regulations when excavating and trenching. Note safety restrictions for trenches deeper than 4 feet. Follow Section 00820.
   4. Use Type I bedding unless Type II or Type III is required due to foundation conditions.

3.2 INSTALLATION

A. Follow manufacturer installation requirements for installing all types of pipe.

B. Follow the following installation guidelines. Consult with the Resident Engineer when conflicts arise with the following and manufacture's guidelines.
   1. Lay pipe starting at the downstream end.
   2. Keep the bottom of the pipe in contact with the bedding throughout its length.
   3. When indicated on the drawings, camber pipe upward from a chord through the inlet and outlet inverts an ordinate amount equal to one percent of the pipe length. Develop camber on a parabolic curve. If the mid-point elevation on the parabolic curve as designed exceeds the elevation of the inlet invert, reduce the amount of camber or increase the pipe gradient.
   4. Place bell or socket end of pipe facing upstream.
   5. Place pipes fabricated with longitudinal laps or seams so that such seams are located approximately 45 degrees away from the invert or crown.
   6. Place paved invert or partially lined pipe so that the centerline of the paved segment matches the flow line.
   7. Place elliptical pipe with the major axis within five degrees of a vertical plane through the longitudinal axis of the pipe.
   8. Place outside circumferential laps of flexible corrugated (annular corrugations) pipe facing upstream.
   9. Close the joints to meet the specified joint integrity in accordance with manufacturer's recommendations.

10. Install pipe to conform to AASHTO Standard Specifications for Highway Bridges:
    a. Section 26 for Corrugated Metal Pipe
    b. Section 27 for Concrete Pipe
    c. Section 30 for Thermoplastic Pipe

3.3 SMOOTH LINING FOR CORRUGATED STEEL PIPE AND PIPE ARCH

A. Clean all surfaces to be lined including removal of all oil and grease from the metal. Allow the surface to dry before proceeding.

B. Concrete Lining: Follow ASTM A 849, Subsections 5 and 9.

C. Asphalt Lining: Follow Table 3.

3.4 PIPE AND PIPE ARCH

A. Follow AASHTO M 243.

B. Use materials described in Table 3.

C. Remove moisture, dirt, oil, un-bonded or incompatible paint, grease residual oil, alkalies, or other foreign matter from the surface to be coated.

D. Spray or brush-coat all aluminum pipes contacting concrete with an asphalt mastic or tar base material to a minimum thickness of 0.05-inch.

3.5 STRUCTURAL PLATE PIPE AND PLATE PIPE ARCH

A. Use materials described in Table 4.

B. Repair or replace all damaged plates or coatings before installation.

C. Installation: Follow DG series Standard Drawings. Embankment: Refer to Section 02330.

D. Assembly:
1. Give the Engineer a copy of the detail plan showing the position of each plate and the assembly order.
2. Follow the manufacturer’s instructions.
3. Clearly mark each modified plate, designating its position in the finished structure.
4. Place outside circumferential pipe-laps facing upstream.
5. Attain approved seam fit-up. All bolts must be in place and have a torque according to manufacturer’s recommendation.

6. Form structural plates so that the finished pipe is elliptical with the vertical diameter of round pipe approximately 5 percent greater than the nominal diameter.

E. Asphalt Coating (structural plate pipe, and plate pipe arch, and arches):
   1. Thoroughly clean all plates to be coated. Remove any oil or grease from the surface of the plates. Keep plates clean and dry prior to coating.
   2. Apply coating to dry plates:
      a. Spray or brush-coat the entire exterior surface of the pipes with an approved post-applied mastic coating to a minimum 0.08 inches wet thickness. Follow AASHTO M 243.
      b. Spray or brush-coat the inside invert for 1/4 of the circumference of round pipe and the full span width of pipe arch with the same compound.
      c. Spray or brush coat all metal surfaces in contact with the ground at the time of erection before assembly. The remaining surfaces may be treated after erection.
   3. Apply uniformly to a minimum thickness of 0.06 inches dry thickness to structural plate for pipe, pipe arches, or arches on inside and outside surfaces measured on the crest of the corrugations.
   4. Furnish as follows, according to the application used:
      a. Spraying consistency: Spray with an air gun without the use of additional thinners when temperatures are 39 degrees F and above.
      b. Troweling consistency: Apply with a knife or trowel.
      c. Brushing consistency: Apply with an ordinary roofing brush.

3.6 INVERT PROTECTION

A. Paved Invert:
   1. Use corrugated steel pipe or pipe arch and structural steel plate pipe or plate pipe arch.
   2. Complete backfill and embankment over the pipe before placing paved invert material.
   3. Use 10-gage wire fabric with wire spaced at 6-inch centers. Refer to AASHTO M 55.
   4. Arc-weld the wire mesh reinforcement to the corrugation at not more than 2 ft centers.
   5. Place concrete at least 2 inches above the crest of the corrugations, at least 1/4 of the circumference of round pipe, or the span width of arch pipe. Refer to Section 03055.
   6. Finish the concrete to a floated surface finish. Follow Section 03310.
   7. After curing, coat the joint between the pipe and concrete with liquid asphalt at a rate 0.9 gal/yd^2 of residual asphalt. Coat 6 inches above and below the joints.

3.7 QUALITY CONTROL

A. Provide adequate cover or protection for all pipe during project construction. Replace all damaged pipe before acceptance by the Department.

B. The following constitute poor workmanship and any one is cause for rejection:
   1. Irregular or distorted shape (not as provided or designed)
   2. Dents or bends
   3. Damaged, broken, delaminated or scaled coating
   4. Loose bolts or nuts
   5. Uneven laps
   6. Improper fitting joints
   7. Any damage which compromises the functionality and design life of the pipe.

C. Coatings:

   1. Department will take a representative sample from each lot furnished to conduct verification testing.

END OF SECTION

September 02, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 02721M

UNTREATED BASE COURSE (UTBC)

Delete the first paragraph of Subsection A., Article 2.1, and replace with the following:

2.1 AGGREGATES

A. Clean, hard, tough, durable and sound mineral aggregates that consist of crushed stone, crushed gravel or crushed slag; free of detrimental and organic matter and/or contamination from chemical or petroleum products; and complies with Table 3 and table 4.

September 13, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 02723S

SHOULDER GRADING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Placing Untreated Base Course ¾ inch or 1 inch max on the existing roadway side slopes and grading to match the edge of the new surfacing. Also grading shoulder to expose breakaway base for existing highway sign post and luminaire pole.

1.2 RELATED SECTIONS

A. Section 02324: Compaction

B. Section 02721: Untreated Base Course

PART 2 PRODUCTS

A. Untreated Base Course: Refer to Section 02721.
The Department will pay for Untreated Base Course separately.

PART 3 EXECUTION

3.1 CONSTRUCTION

A. Complete Shoulder Grading after OGSC placement.

B. Place (UTBC) Untreated Base Course ¾ inch or 1 inch max on gravel shoulder as close to asphalt shoulder as possible.
1. Use a mechanical device. Do not place UTBC on asphalt surface and blade into position.

2. Grade UTBC on the side slopes to match the new asphalt surface as shown on the plans. Provide a smooth transition to the undisturbed side slopes.

3. No payment will be made for UTBC ending up beyond the limits shown on the plans.

C. Compact UTBC side slopes to the equivalent of at least two passes with a steel drum roller. Use a skip loader for a final finish.

D. Grade shoulder to expose breakaway base for existing luminaire pole as shown on detail sheet DT-04.

E. Any damage done to existing asphalt surface, delineators, signs, etc. will be repaired or replaced by the Contractor at his expense.

END OF SECTION

August 10, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 02724S

GRAVEL DRIVEWAY

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Construct gravel driveways.

1.2 RELATED SECTIONS

A. Section 02316: Roadway Excavation

B. Section 02324: Compaction

C. Section 02721: Untreated Base Course

PART 2 PRODUCTS Not Used

PART 3 EXECUTION

3.1 UNTREATED BASE COURSE

A. Refer to section 02721.

3.2 CONSTRUCTION

A. Constant sloped driveway to match grade at either end. See plan sheets for required length.

END OF SECTION

January 1, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 02742S

PROJECT SPECIFIC SURFACING REQUIREMENTS

Add Section 02742:

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Required PG Asphalt or emulsion.

B. Number of gyrations to use for Superpave Mix Design.

PART 2 PRODUCTS

2.1 MIXES

A. Hot Mix Asphalt (HMA): (Refer to bid item for size)

1. PG __64-28____ Asphalt.

2. $N_{initial}$ __9_____ N_{design} ___125_____ N_{final} ___205_____

B. Open-Graded Surface Course:

1. PG __64-28_____ Asphalt.

C. Chip Seal

1. Type of asphalt emulsion _____N/A_____

PART 3 EXECUTION Not used

END OF SECTION

Supplemental Specification
2005 Standard Specification Book

SECTION 02745

ASPHALT MATERIAL

Delete Section 02745 and replace with the following:

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Asphalt materials

1.2 PAYMENT PROCEDURES

A. Price adjustments for asphalt cement and liquid asphalt (chip-seal emulsions and/or cut-backs):
   1. Standard department procedures governs price adjustments made where asphalt material does not conform to the specifications
      a. If the price adjustment exceeds 30 percent, the Engineer may order the removal of any or all the defective asphalt material.
      b. The pay factor for such material is 0.50 when allowed to remain in place.

B. Price adjustments for Performance Graded Asphalt Binder (PGAB):
   1. Standard department PGAB management plan governs price reductions or removal of material where the binder does not conform to the specifications.

1.3 REFERENCES

A. AASHTO M 81: Cut-Back Asphalt (Rapid-Curing Type)

B. AASHTO M 82: Cut-Back Asphalt (Medium-Curing Type)

C. AASHTO M 140: Emulsified Asphalt

D. AASHTO M 208: Cationic Emulsified Asphalt

E. AASHTO M 226: Viscosity Graded Asphalt Cement

F. AASHTO M 320: Performance Graded Asphalt Cement

G. AASHTO R 28: Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV)

H. AASHTO T 44: Solubility of Bituminous Materials

I. AASHTO T 48: Flash and Fire Points by Cleveland Open Cup

J. ASHTO T 49: Penetration of Bituminous Materials

K. AASHTO T 50: Float Test for Bituminous Materials

L. AASHTO T 51: Ductility of Bituminous Materials

M. AASHTO T 59: Testing Emulsified Asphalt

N. AASHTO T 201: Kinematic Viscosity of Asphalts

O. AASHTO T 228: Specific Gravity of Semi-Solid Bituminous Materials

P. AASHTO T 240: Effect of Heat and Air on a Moving Film of Asphalt (Rolling Thin-Film Oven Test)

Q. AASHTO T 300: Force Ductility of Bituminous Materials

R. AASHTO T 301: Elastic Recovery Test of Bituminous Materials by Means of a Ductilometer

S. AASHTO T 313: Determining the Flexural Creep Stiffness of Asphalt Binder Using the Bending Beam Rheometer (BBR)

T. AASHTO T 314: Determining the Fracture Properties of Asphalt Binder in Direct Tension

U. AASHTO T 315: Determining the Rheological Properties of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)

V. AASHTO T 316: Viscosity Determination of Asphalt Binder Using Rotational Viscometer

W. ASTM D 92: Flash and Fire Points by Cleveland Open Cup

X. ASTM D 1190: Concrete Joint Sealer, Hot-Applied Elastic Type

Y: ASTM D 2006: Method of Test for Characteristic Groups in Rubber Extender and Processing Oils by the Precipitation Method.

Z. ASTM D 2007: Characteristic Groups in Rubber Extender and Processing Oils and Other Petroleum-Derived Oils by the Clay-Gel Absorption Chromatographic Method

AA. ASTM D 2026: Cutback Asphalt (Slow-Curing Type)

BB. ASTM D 3405: Joint Sealants, Hot-Applied, for Concrete and Asphalt Pavements

CC. ASTM D 4402: Viscosity Determinations of Unfilled Asphalts Using the Brookfield Thermosel Apparatus

DD. ASTM D 5329: Sealants and Fillers, Hot-Applied, For Joints and Cracks in Asphaltic and Portland Cement Concrete Pavements

EE. ASTM D 5801: Toughness and Tenacity of Bituminous Materials

FF. California Test Methods

GG. UDOT Materials Manual of Instruction

HH. UDOT Minimum Sampling and Testing Guide

1.4 SUBMITTALS

A. For each shipment of material, supply a vendor-prepared bill of lading showing the following information:
   1. Type and grade of material
   2. Type and amount of additives, used, if applicable
   3. Destination
   4. Consignee's name
   5. Date of Shipment
   6. Railroad car or truck identification
   7. Project number
   8. Loading temperature
   9. Net weight in tons (or net gallons corrected to 60 degrees F, when requested)
   10. Specific gravity
   11. Bill of lading number
   12. Manufacturer of asphalt material

1.5 DELIVERY, STORAGE, AND HANDLING

A. Each shipment of asphalt material must:
   1. Be uniform in appearance and consistency.
   2. Show no foaming when heated to the specified loading temperature.

B. Do not supply shipments contaminated with other asphalt types or grades than those specified.

1.6 GRADE OF MATERIAL

A. The Engineer determines the grade of material to be used based on the supply source designated by the Contractor when the bid proposal lists more than one grade of asphalt material.

PART 2 PRODUCTS

2.1 PERFORMANCE GRADED ASPHALT BINDER (PGAB)

A. Supply PGABs under the Approved Supplier Certification (ASC) System. Refer to the UDOT Minimum Sampling and Testing Guide, Section 509, Asphalt Binder Management Plan.

B. As specified in AASHTO M 320 for all PGABs having algebraic differences less than 92 degrees between the high and low design temperatures.

C. As specified in Tables 1, 2, 3, 4, 5, 6, 7, and 8 for all PGABs having algebraic differences equal to or greater than 92 degrees between the high and low design temperatures.

Table 1

PG58-34		
Original Binder		
Dynamic Shear Rheometer, AASHTO T 315	@58°C, G*, kPa	1.30 Min.
	@58°C, phase angle, degrees	74.0 Max.
Rotational Viscometer, AASHTO T 316	@135°C, Pa.s	3 Max.
Flash Point, AASHTO T 48	°C	260 Min.
RTFO Residue, AASHTO T 240		
Dynamic Shear Rheometer, AASHTO T 315	@58°C, G*/sinδ, kPa	2.20 Min.
Elastic Recovery, AASHTO T 301 mod (a)	%	65 Min.
PAV Residue, 20 hours, 2.10 Mpa, 100 °C, AASHTO R 28		
Dynamic Shear Rheometer, AASHTO T 315	@16°C, kPa	5000 Max.
Bending Beam Rheometer, AASHTO T 313	@-24°C, S, MPa	300 Max.
	@-24°C, m-value	0.300 Min.
Direct Tension Test, AASHTO T 314	@-24°C, Failure Strain, %	1.5 Min.
	@-24°C, Failure Stress (b), MPa	4.0 Min.

(a) Modify paragraph 4.5 as follows: After 20 cm has been reached, stop the ductilometer and within 2 seconds, sever the specimen at its center with a pair of scissor…

(b) No allowances will be given for passing at a colder grade

Table 2

PG64-28		
Original Binder		
Dynamic Shear Rheometer, AASHTO T 315	@64°C, G*, kPa	1.30 Min.
	@64°C, phase angle, degrees	74.0 Max.
Rotational Viscometer, AASHTO T 316	@135°C, Pa.s	3 Max.
Flash Point, AASHTO T 48	°C	260 Min.
RTFO Residue, AASHTO T 240		
Dynamic Shear Rheometer, AASHTO T 315	@64°C, G*/sinδ, kPa	2.20 Min.
Elastic Recovery, AASHTO T 301 mod (a)	%	65 Min.
PAV Residue, 20 hours, 2.10 Mpa, 100 °C, AASHTO R 28		
Dynamic Shear Rheometer, AASHTO T 315	@ 22°C, kPa	5000 Max.
Bending Beam Rheometer, AASHTO T 313	@-18°C, S, MPa	300 Max.
	@-18°C, m-value	0.300 Min.
Direct Tension Test, AASHTO T 314	@-18°C, Failure Strain, %	1.5 Min.
	@-18°C, FailureStress (b), Mpa	4.0 Min.

(a) Modify paragraph 4.5 as follows: After 20 cm has been reached, stop the ductilometer and within 2 seconds, sever the specimen at its center with a pair of scissor…

(b) No allowances will be given for passing at a colder grade

Table 3

PG64-34		
Original Binder		
Dynamic Shear Rheometer, AASHTO T 315	@64°C, G*, kPa	1.30 Min.
	@64°C, phase angle, degrees	71.0 Max.
Rotational Viscometer, AASHTO T 316	@135°C, Pa.s	3 Max.
Flash Point, AASHTO T 48	°C	260 Min.
RTFO Residue, AASHTO T-240		
Dynamic Shear Rheometer, AASHTO T 315	@64°C, G*/sinδ, kPa	2.20 Min.
Elastic Recovery, AASHTO T 301 mod (a)	%	70 Min.
PAV Residue, 20 hours, 2.10 Mpa, 100 °C, AASHTO R 28		
Dynamic Shear Rheometer, AASHTO T 315	@19°C, kPa	5000 Max.
Bending Beam Rheometer, AASHTO T 313	@-24°C, S, MPa	300 Max.
	@-24°C, m-value	0.300 Min.
Direct Tension Test, AASHTO T 314	@-24°C, Failure Strain, %	1.5 Min.
	@-24°C, FailureStress (b), MPa	4.0 Min.

(a) Modify paragraph 4.5 as follows: After 20 cm has been reached, stop the ductilometer and within 2 seconds, sever the specimen at its center with a pair of scissor…

(b) No allowances will be given for passing at a colder grade

Table 4

PG70-22		
Original Binder		
Dynamic Shear Rheometer, AASHTO T 315	@70°C, G*, kPa	1.30 Min.
	@70°C, phase angle, degrees	74.0 Max.
Rotational Viscometer, AASHTO T 316	@135°C, Pa.s	3 Max.
Flash Point, AASHTO T 48	°C	260 Min.
RTFO Residue, AASHTO T 240		
Dynamic Shear Rheometer, AASHTO T 315	@70°C, G*/sinδ, kPa	2.20 Min.
Elastic Recovery, AASHTO T 301 mod (a)	%	65 Min.
PAV Residue, 20 hours, 2.10 Mpa, 100 °C, AASHTO R 28		
Dynamic Shear Rheometer, AASHTO T 315	@28°C, kPa	5000 Max.
Bending Beam Rheometer, AASHTO T 313	@-12°C, S, MPa	300 Max.
	@-12°C, m-value	0.300 Min.
Direct Tension Test, AASHTO T 314	@-12°C, Failure Strain, %	1.5 Min.
	@-12°C, FailureStress (b), MPa	4.0 Min.

(a) Modify paragraph 4.5 as follows: After 20 cm has been reached, stop the ductilometer and within 2 seconds, sever the specimen at its center with a pair of scissor…

(b) No allowances will be given for passing at a colder grade

Table 5

PG70-28		
Original Binder		
Dynamic Shear Rheometer, AASHTO T 315	@70°C, G*, kPa	1.30 Min.
	@70°C, phase angle, degrees	71.0 Max.
Rotational Viscometer, AASHTO T 316	@135°C, Pa.s	3 Max.
Flash Point, AASHTO T 48	°C	260 Min.
RTFO Residue, AASHTO T 240		
Dynamic Shear Rheometer, AASHTO T 315	@70°C, G*/sinδ, kPa	2.20 Min.
Elastic Recovery, AASHTO T 301 mod (a)	%	70 Min.
PAV Residue, 20 hours, 2.10 Mpa, 100 °C, AASHTO R 28		
Dynamic Shear Rheometer, AASHTO T 315	@25°C, kPa	5000 Max.
Bending Beam Rheometer, AASHTO T 313	@-18°C, S, MPa	300 Max.
	@-18°C, m-value	0.300 Min.
Direct Tension Test, AASHTO T 314	@-18°C, Failure Strain, %	1.5 Min.
	@-18°C, FailureStress (b), MPa	4.0 Min.
(a) Modify paragraph 4.5 as follows: After 20 cm has been reached, stop the ductilometer and within 2 seconds, sever the specimen at its center with a pair of scissor…		
(b) No allowances will be given for passing at a colder grade		

Table 6

PG70-34		
Original Binder		
Dynamic Shear Rheometer, AASHTO T 315	@70°C, G*, kPa	1.30 Min.
	@70°C, phase angle, degrees	71.0 Max.
Rotational Viscometer, AASHTO T 316	@135 °C, Pa.s	3 Max.
Flash Point, AASHTO T 48	°C	260 Min.
RTFO Residue, AASHTO T 240		
Dynamic Shear Rheometer, AASHTO T 315	@70°C, G*/sinδ, kPa	2.20 Min.
Elastic Recovery, AASHTO T 301 mod (a)	%	75 Min.
PAV Residue, 20 hours, 2.10 Mpa, 100 °C, AASHTO R 28		
Dynamic Shear Rheometer, AASHTO T 315	@22°C, kPa	5000 Max.
Bending Beam Rheometer, AASHTO T 313	@-24°C, S, MPa	300 Max.
	@-24°C, m-value	0.300 Min.
Direct Tension Test, AASHTO T 314	@-24°C, Failure Strain, %	1.5 Min.
	@-24°C, FailureStress (b), MPa	4.0 Min.
(a) Modify paragraph 4.5 as follows: After 20 cm has been reached, stop the ductilometer and within 2 seconds, sever the specimen at its center with a pair of scissor…		
(b) No allowances will be given for passing at a colder grade		

Table 7

PG76-22		
Original Binder		
Dynamic Shear Rheometer, AASHTO T 315	@76°C, G*, kPa	1.30 Min.
	@76°C, phase angle, degrees	71.0 Max.
Rotational Viscometer, AASHTO T 316	@135°C, Pa.s	3 Max.
Flash Point, AASHTO T 48	°C	260 Min.
RTFO Residue, AASHTO T 240		
Dynamic Shear Rheometer, AASHTO T 315	@76°C, G*/sinδ, kPa	2.20 Min.
Elastic Recovery, AASHTO T 301 mod (a)	%	70 Min.
PAV Residue, 20 hours, 2.10 Mpa, 100 °C, AASHTO R 28		
Dynamic Shear Rheometer, AASHTO T 315	@ 31°C, kPa	5000 Max.
Bending Beam Rheometer, AASHTO T 313	@-12°C, S, MPa	300 Max.
	@-12°C, m-value	0.300 Min.
Direct Tension Test, AASHTO T 314	@-12°C, Failure Strain, %	1.5 Min.
	@-12°C, FailureStress (b), MPa	4.0 Min.

(a) Modify paragraph 4.5 as follows: After 20 cm has been reached, stop the ductilometer and within 2 seconds, sever the specimen at its center with a pair of scissor…
(b) No allowances will be given for passing at a colder grade

Table 8

PG76-28		
Original Binder		
Dynamic Shear Rheometer, AASHTO T 315	@76°C, G*, kPa	1.30 Min.
	@76°C, phase angle, degrees	71. 0 Max.
Rotational Viscometer, AASHTO T 316	@135°C, Pa.s	3 Max.
Flash Point, AASHTO T 48	°C	260 Min.
RTFO Residue, AASHTO T 240		
Dynamic Shear Rheometer, AASHTO T 315	@76°C, G*/sinδ, kPa	2.20 Min.
Elastic Recovery, AASHTO T 301 mod (a)	%	75 Min.
PAV Residue, 20 hours, 2.10 Mpa, 100 °C, AASHTO R 28		
Dynamic Shear Rheometer, AASHTO T 315	@28°C, kPa	5000 Max.
Bending Beam Rheometer, AASHTO T 313	@-18°C, S, MPa	300 Max.
	@-18°C, m-value	0.300 Min.
Direct Tension Test, AASHTO T 314	@-18°C, Failure Strain, %	1.5 Min.
	@-18°C, FailureStress (b), MPa	4.0 Min.

(a) Modify paragraph 4.5 as follows: After 20 cm has been reached, stop the ductilometer and within 2 seconds, sever the specimen at its center with a pair of scissor…
(b) No allowances will be given for passing at a colder grade

2.2 ASPHALTIC CEMENT, LIQUID ASPHALTS, REJUVENATING AGENTS

A. As specified in AASHTO M 226, Table 2 with the following modifications:
   1. Delete and replace ductility at 77EF (25EC) with ductility at 39.2EF (4EC) with values as detailed below.

AC - 2.5	AC - 5	AC - 10	AC - 20
50+	25+	15+	5+

B. As specified for cationic and anionic emulsified asphalt.
   1. All standard Slow Setting (SS, CSS), Medium Setting (MS, CMS), and Rapid Setting (RS, CRS) grades; inclusive of all High-Float designations (HF).
   2. Supply under the Approved Supplier Certification System (ASC).
   3. Meet AASHTO M 208 and M 140.

C. Conform to the requirements of one of these tables:
   1. Table 9: Cationic Rapid Setting Emulsified Polymerized Asphalt (CRS-2P)
   2. Table 10: Latex Modified Cationic Rapid Setting Emulsified Asphalt (LMCRS-2)
   3. Table 11: Cationic Medium Setting Emulsified Asphalt (CMS-2S)
   4. Table 12: High Float Medium Setting Emulsified Asphalt (HFMS-2)
   5. Table 13: High Float Medium Setting Emulsified Polymerized Asphalt (HFMS-2P)
   6. Table 14: High Float Medium Setting Emulsified Polymerized Asphalt (HFMS-2SP)
   7. Table 15: High Float Rapid Setting Emulsified Polymerized Asphalt (HFRS-2P).
   8. Table 16: Setting Cationic Rapid Emulsified Asphalt (CRS-2A, B)

D. Curing cut-back asphalt:
   1. As specified for slow curing (SC) in ASTM D 2026.
   2. As specified for medium curing (MC) in AASHTO M 82.
   3. As specified for rapid curing (RC) in AASHTO M 81.

E. Conform to requirements for Emulsified Asphalt Pavement Rejuvenating Agent:
   1. Table 17: Type A
   2. Table 18: Type B
   3. Table 19: Type B Modified
   4. Table 20: Type C
   5. Table 21: Type D

Table 9

Cationic Rapid Setting Emulsified Polymerized Asphalt (CRS-2P)			
Tests	**AASHTO Test Method**	**Min.**	**Max.**
Emulsion			
Viscosity , SF, 140EF (60EC), s (Project-site Acceptance/Rejection Limits)	T59	100	400
Settlement (a) 5 days, percent	T 59		5
Storage Stability Test (b) 1 d, 24 h, percent	T 59		
Demulsibility (c) 35 ml, 0.8% sodium dioctyl Sulfosucinate, percent	T 59	40	
Particle Charge Test	T 59	Positive	
Sieve Test, percent	T 59		0.10
Distillation			
Oil distillate, by volume of emulsion, percent			0
Residue (d), percent		68	
Residue from Distillation Test			
Penetration, 77EF(25EC), 100 g, 5 s, dmm	T 49	80	150
Ductility, 39.2EF(4EC), 5 cm/min, cm Toughness, lb-in Tenacity, lb-in	T 51 ASTM D 5801 ASTM D 5801	35 75 50	
Solubility in trichloroethylene, percent	T 44	97.5	

(a) The test requirement for settlement may be waived when the emulsified asphalt is used in less than a five-day time; or the purchaser may require that the settlement test be run from the time the sample is received until it is used, if the elapsed time is less than 5 days.

(b) The 24-hour (1-day) storage stability test may be used instead of the five-day settlement test.

(c) The demulsibility test is made within 30 days from date of shipment.

(d) Distillation is determined by AASHTO T 59, with modifications to include a 350 ± 5EF (177±3°C) maximum temperature to be held for 15 minutes.

Modify the asphalt cement prior to emulsification.

Table 10

Latex Modified Cationic Rapid Setting Emulsified Asphalt (LMCRS-2)			
Tests	**AASHTO Test Method**	**Min.**	**Max.**
Emulsion			
Viscosity, SF, 122EF (50EC), s– (Project Site Acceptance/Rejection Limits)	T59	140	400
Settlement (a) 5 days, percent	T 59		5
Storage Stability Test (b) 1 d, 24 h, percent	T 59		1
Demulsibility (c) 35 ml, 0.8% sodium dioctyl Sulfosucinate, percent	T 59	40	
Particle Charge Test	T 59	Positive	
Sieve Test, percent	T 59		0.3
Distillation			
Oil distillate, by volume of emulsion, percent			0
Residue (d), percent		65	
Residue from Distillation Test			
Penetration, 77EF (25EC), 100 g, 5 s, dmm	T 49	40	200
Torsional Recovery (e)		18	

(a) The test requirement for settlement may be waived when the emulsified asphalt is used in less than a five-day time; or the purchaser may require that the settlement test be run from the time the sample is received until it is used, if the elapsed time is less than 5 days.

(b) May use the 24-hour (1-day) storage stability test instead of the five-day settlement test.

(c) Make the demulsibility test within 30 days from date of shipment.

(d) Determine distillation by AASHTO T 59,with modifications to include a 350 ± 5EF (177±3EC) maximum temperature to be held for 15 minutes.

(e) CA 332 (California Test Method)

Co-mill latex and asphalt during emulsification

Table 11

Cationic Medium Setting Emulsified Asphalt (CMS-2S)		
Tests	**AASHTO Test Method**	**Specification**
Emulsion		
Viscosity, SF, 122EF (50EC), s	T 59	50 - 450
Percent residue	T 59	60 min
Storage Stability Test, 1d, 24h, percent	T 59	1 max
Sieve, percent	T 59	0.10 max
Particle charge	T 59	Positive
Oil Distillate, percent by volume of emulsion	T 59	5-15
Residue		
Penetration, 77EF (25EC), 100g, 5 sec, dmm	T 59	100-250
Solubility, percent	T 59	97.5 min.

Table 12

High Float Medium Setting Emulsified Asphalt (HFMS-2)			
Tests	**AASHTO Test Method**	**Min.**	**Max.**
Emulsion			
Viscosity, SF, 122°F (50°C), s (Project Site Acceptance/Rejection Limits	T59	70	300
Storage Stability Test, 1d, 24 h, percent	T59		1.0
Sieve Test , percent	T59		0.1
Distillation	T59		
Oil Distillate, by volume of emulsion, percent	T59	NA	NA
Residue, percent	T59	65	
Residue from Distillation Test			
Penetration, 77°F (25°C), 100g, 5 s, dmm	T49	50	200
Float Test, 140°F (60°C), s	T50	1200	
Solubility in Trichloroethylene, percent	T44	97.5	
Ductility, 77°F (25°C) 5cm/min, cm	T51	40	

Table 13

High Float Medium Setting Emulsified Polymerized Asphalt (HFMS-2P) (a)			
Tests	**AASHTO Test method**	**Min.**	**Max.**
Emulsion			
Viscosity, SF, 122EF (50EC), s (Project Site Acceptance/Rejection Limits)	T 59	100	450
Storage Stability Test, 1 d, 24 h, percent	T 59		1.0
Sieve Test, percent	T 59		0.1
Distillation			
Oil distillate, by volume of emulsion, percent	T 59		7
Residue (b), percent	T 59	65	
Residue from Distillation Test			
Penetration, 77EF (25EC), 100 g, 5 s, dmm	T 49	70	300
Float Test, 140EF (60EC), s	T 50	1200	300
Solubility in trichloroethylene, percent	T 44	97.5	
Elastic Recovery, 77EF (25EC), percent	T 301	50	

(a) Supply an HFMS-2P (anionic, polymerized, high-float) as an emulsified blend of polymerized asphalt cement, water, and emulsifiers. Polymerize the asphalt cement with a minimum of 3.0% polymer by weight of the asphalt cement prior to emulsification. After standing undisturbed for a minimum of 24 hours, the emulsion shall be smooth and homogeneous throughout with no white, milky separation, pumpable, and suitable for application through a distributor.

(b) Determine the distillation by AASHTO T 59, with modifications to include a 350± 5EF (177±3EC) maximum temperature to be held for 15 minutes.

Table 14

High Float Medium Setting Emulsified Polymerized Asphalt (HFMS-2SP) (a)			
Tests	**AASHTO Test method**	**Min.**	**Max.**
Emulsion			
Viscosity, SF, 122EF (50EC), s (Project Site Acceptance/Rejection Limits)	T 59	50	450
Storage Stability Test, 1 d, 24 h, percent	T 59		1
Sieve Test, percent	T 59		0.1
Distillation			
Oil distillate, by volume of emulsion, percent	T 59		7
Residue (b), percent	T 59	65	
Residue from Distillation Test			
Penetration, 77EF (25EC), 100 g, 5 s, dmm	T 49	150	300(c)
Float Test, 140EF (60EC), s	T 50	1200	
Solubility in trichloroethylene, percent	T 44	97.5	
Elastic Recovery(d), 77EF (25EC), percent	T 301	50	

(a) Supply an HFMS-2SP (anionic, polymerized, high-float) as an emulsified blend of polymerized asphalt cement, water, and emulsifiers. Polymerize the asphalt cement with a minimum of 3.0% polymer by weight of the asphalt cement prior to emulsification. After standing undisturbed for a minimum of 24 hours, the emulsion shall be smooth and homogeneous throughout with no white, milky separation, pumpable, and suitable for application through a distributor.

(b) Determine the distillation by AASHTO T 59, with modifications to include a 350± 5EF (177±3EC) maximum temperature to be held for 15 minutes.

(c) When approved by the Engineer, Emulsified Asphalt (HFMS-2SP) with a residual penetration greater than 300 dmm may be used with Cold Bituminous Pavement (Recycle) to address problems with cool weather or extremely aged existing pavement.

(d) Report only when penetration is greater than 300 dmm.

Table 15

High Float Rapid Setting Emulsified Polymerized Asphalt (HFRS-2P) (a)			
Tests	**AASHTO Test method**	**Min.**	**Max.**
Emulsion			
Viscosity, SF @ 122EF (50EC), s (Project Site Acceptance/Rejection Limits)	T 59	50	450
Storage Stability Test (b) 1 d, 24 h, percent	T 59		1
Demulsibility 0.02 N Ca Cl_2, percent	T 59	40	
Sieve Test, percent	T 59		0.1
Distillation			
Oil distillate, by volume of emulsion, percent	T 59		3
Residue (b), percent	T 59	65	
Residue from Distillation Test			
Penetration, 77°F (25EC), 100 g, 5 s, dmm	T 49	70	150
Float Test, 140EF (60EC), s	T 50	1200	
Solubility in trichloroethylene, percent	T 44	97.5	
Elastic Recovery, 77EF (25EC), percent	T 301	58	

(a) Supply an HFMS-2SP (anionic, polymerized, high-float) as an emulsified blend of polymerized asphalt cement, water, and emulsifiers. Polymerize the asphalt cement with a minimum of 3.0% polymer by weight of the asphalt cement prior to emulsification. After standing undisturbed for a minimum of 24 hours, the emulsion shall be smooth and homogeneous throughout with no white, milky separation, pumpable, and suitable for application through a distributor.

(b) Determine the distillation by AASHTO T 59, with modifications to include a 350 ± 5EF (177±3EC) maximum temperature to be held for 15 minutes.

Table 16

Cationic Rapid Setting Emulsified Asphalt (CRS-2A,B)			
Tests	**AASHTO Test Method**	**Min**	**Max**
Emulsion			
Viscosity, SF, 122EF (50EC), s (Project Site Rejection/Acceptance Limits)	T 59	140	400
Storage stability test, 24 h, percent	T 59		1
Demulsibility, 35 mL 0.8 percent Sodium Dioctyl Sulfosucinate, percent	T 59	40	
Particle charge test	T 59	Positive	
Sieve test, percent	T 59		0.10
Distillation			
Oil distillate, by volume of emulsion, percent	T 59		0
Residue, percent	T 59	65	
Use PG58-22 and PG64-22 as base asphalt cement for CRS-2A, B, respectively. Specification for high temperature performance: original and RTFO G*/sin∗ within 3EC of grade.			

Table 17

Emulsified Type A Asphalt Pavement Rejuvenating Agent Concentrate		
Property	**Test Method**	**Limits**
Viscosity, SF, 77EF (25EC), s	AASHTO T 59	15 Min 40 Max
Residue , percent W (a)	AASHTO T 59	60 Min. 65 Max.
Miscibility Test (b)	AASHTO T-59	No Coagulation
Sieve Test, percent W (c)	AASHTO T 59	0.20 Max.
5-day Settlement, percent W	AASHTO T 59	5.0 Max.
Particle Charge	AASHTO T 59	Positive
Light Transmittance , %	UDOT MOI 8-973	30 Max.
Cement Mixing	AASHTO T-59	2 Max.
Residue from Distillation (a)		
Viscosity, 140 ºF (60EC), mm^2/s	ASTM D 4402	150 - 300
Flash Point, COC, EF (EC)	AASHTO T 48	385 Min.
Asphaltenes, percent W	ASTM D 2006-70	0.4 Min. 0.75 Max.
Maltene Distribution Ratio $(PC + A_1)/(S + A_2)$ (d)	ASTM D 2006-70	0.3 Min. 0.6 Max
Saturated Hydrocarbons, S (d)	ASTM D 2006-70	21 Min. 28 Max.
PC/S Ratio (d)	ASTM D 2006-70	1.5 Min.

(a) AASHTO T 59 , Evaporation Test, modified as follows: Heat a 50 gram sample to 300 ºF until foaming ceases, then cool immediately and calculate results.

(b) AASHTO T 59, modified as follows: use a 0.02 Normal Calcium Chloride solution in place of distilled water.

(c) AASHTO T 59, modified as follows: use distilled water in place of a two percent sodium oleate solution.

(d) Chemical composition by ASTM Method D-2006-70:
PC= Polar Compounds, A_1 = First Acidaffins
A_2 = Second Acidaffins, S = Saturated Hydrocarbons

Table 18

Emulsified Type B Asphalt Pavement Rejuvenating Agent Concentrate		
Tests	**Test Method**	**Limits**
Viscosity, SF, 77EF (25EC), s	AASHTO T 59	25-150
Residue, percent W	AASHTO T 59 (mod) (a)	62 Min.
Sieve Test, percent W	AASHTO T 59	0.10 Max.
5-day Settlement	AASHTO T 59	5.0 Max.
Particle Charge	AASHTO T 59	Positive
Pumping Stability (b)		Pass
Residue from Distillation (a)		
Viscosity @ 140°F (60°C), mm^2/s	AASHTO T 201	2500-7500
Solubility in 1,1,1 Trichloroethylene, percent	AASHTO T 44	98 Min.
Flash Point, COC	ASTM D 92	204EC, Min.
Asphaltenes, percent W	ASTM D 2007	15 Max.
Saturates, percent W	ASTM D 2007	30 Max.
Aromatics, percent W	ASTM D 2007	25 Min.
Polar Compounds, percent W	ASTM D 2007	25 Min.
(a) Determine the distillation by AASHTO T 59 with modifications to include a 300 ±5EF (149±3EC) maximum temperature to be held for 15 minutes. (b) Test pumping stability by pumping 475 ml of Type B diluted 1 part concentrate to 1 part water, at 77EF (25°C) through a 1/4 inch gear pump operating at 1750 rpm for 10 minutes with no significant separation or coagulation in pumped material.		
Type B: an emulsified blend of, lube oil and/or lube oil extract, and petroleum asphalt.		

Table 19

Emulsified Type B Modified Asphalt Pavement Rejuvenating Agent Concentrate		
Property	**Test Method**	**Limits**
Viscosity, SF, 77EF (25EC), s	AASHTO T 59	50-200
Residue(a), percent W	AASHTO T 59	62 Min.
Sieve Test, percent W	AASHTO T 59	0.20 Max.
5-day Settlement, percent W	AASHTO T 59	5.0 Max.
Particle Charge	AASHTO T 59	Positive
Pumping Stability (b)		Pass
Residue from Distillation (a)		
Viscosity (c) 275EF (135EC), cP	ASTM D 4402	150 - 300
Penetration, 77EF (25EC), dmm	AASHTO T 49	180 Min.
Solubility in 1,1,1 Trichloroethylene, percent	AASHTO T 44	98 Min.
Flash Point, COC, EF (EC)	AASHTO T 48	400(204) Min.
Asphaltenes, percent W	ASTM D 2007	20-40
Saturates, percent % W	ASTM D 2007	20 Max.
Polar Compounds, percent W	ASTM D 2007	25 Min.
Aromatics, percent W	ASTM D 2007	20 Min.
PC/S Ratio	ASTM D 2007	1.5 Min.

(a) Determine the distillation by AASHTO T 59 with modifications to include a 300±5EF (149± 3°C) maximum temperature to be held for 15 minutes.

(b) Pumping stability is tested by pumping 475 ml of Type B diluted 1 part concentrate to 1 part water, at 77EF (25EC) through a 1/4 inch gear pump operating at 1750 rpm for 10 minutes with no significant separation or coagulation in pumped material.

(c) Brookfield Thermocel Apparatus-LV model. ≥ 50 rpm with a #21 spindle, 7.1 g residue, at > 10 torque

As required by the Asphalt Emulsion Quality Management Plan, UDOT Minimum Sampling and Testing Guide, Section 508) the supplier certifies that the base stock contains a minimum of 15% by weight of Gilsonite Ore. Use the HCL precipitation method as a qualitative test to detect the presence of Gilsonite.

Table 20

Emulsified Type C Asphalt Pavement Rejuvenating Agent Concentrate		
Property	**Test Method**	**Limits**
Viscosity, SF, 77EF (25EC), s	AASHTO T 59	10-100
Residue (a), percent W (Type C supplied ready to use 1:1 or 2:1.	AASHTO T 59	30 Min. 1:1 40 Min. 2:1
Sieve Test, percent W (b)		0.10 Max.
5-day Settlement, percent W	AASHTO T 59	5.0 Max.
Particle Charge	AASHTO T 59	Positive
pH (May be used if particle charge test is inconclusive)		2.0 - 7.0
Pumping Stability (c)		Pass
Tests of Residue from Distillation (a)		
Viscosity, 275EF (135°C), mm^2/s	AASHTO T 201	475-1500
Solubility in 1,1,1 Trichloroethylene, percent	AASHTO T 44	97.5 Min.
RTFO mass loss, percent W	AASHTO T 240	2.5 Max.
Specific Gravity	AASHTO T 228	0.98 Min.
Flash Point, COC	AASHTO T 48	232 EC, Min.
Asphaltenes, percent W	ASTM D 2007	25 Min., 45 Max.
Saturates, percent W	ASTM D 2007	10 Max.
Polar Compounds, percent W	ASTM D 2007	30 Min.
Aromatics, percent W	ASTM D 2007	15 Min.

(a) Determine the distillation by AASHTO T 59 with modifications to include a 300± 5EF (149 ± 3EC) maximum temperature to be held for 15 minutes.

(b) Test method identical to AASHTO T 59 except that distilled water is used in place of 2 % sodium oleate solution.

(c) Test pumping stability by pumping 475 ml of Type diluted 1 part concentrate to 1 part water, at 77EF (25EC) through a 1/4 inch gear pump operating at 1750 rpm for 10 minutes with no significant separation or coagulation in pumped material.

As required by the Asphalt Emulsion Quality Management Plan, UDOT Minimum Sampling and Testing Guide, Section 508), the supplier certifies that the base stock contains a minimum of 10% by weight of Gilsonite ore. Use the HCL precipitation method as a qualitative test to detect the presence of Gilsonite.

Table 21

Emulsified Type D Asphalt Pavement Rejuvenating Agent Concentrate		
Property	**Test Method**	**Limits**
Viscosity, SF, 77EF (25EC), s	AASHTO T 59	30-90
Residue, (b) percent W	AASHTO T 59	65
Sieve Test, percent W	AASHTO T 59	0.10 Max.
pH		2.0 - 5.0
Residue from Distillation (b)		
Viscosity, 140EF (60EC), cm^2/s	AASHTO T 201	300-1200
Viscosity, 275EF (135EC), mm^2/s	AASHTO T 201	300 Min.
Modified Torsional Recovery (a) percent	CA 332 (Mod)	40 Min.
Toughness, 77EF (25EC), in-lb	ASTM D 5801	8 Min.
Tenacity, 77EF (25EC), in-lb	ASTM D 5801	5.3 Min.
Asphaltenes, percent W	ASTM D 2007	16 Max.
Saturates, percent W	ASTM D 2007	20 Max.
(a) Torsional recovery measurement to include first 30 seconds.		
(b) Determine the distillation by AASHTO T 59 with modifications to include a 300±5EF (149±3EC) maximum temperature to be held for 15 minutes.		

2.3 HOT-POUR CRACK SEALANT FOR BITUMINOUS CONCRETE

A. Combine a homogenous blend of materials to produce a sealant meeting properties and tests in Table 22.

B. Packaging and Marking: Supply sealant pre-blended, pre-reacted, and pre-packaged in lined boxes weighing no more than 30 lb.
   1. Use a dissolvable lining that will completely melt and become part of the sealant upon subsequent re-melting.
   2. Deliver the sealant in the manufacturer's original sealed container. Clearly mark each container with the manufacturer's name, trade name of sealant, batch or lot number, and recommended safe heating and application temperatures.

Table 22

Hot-Pour Bituminous Concrete Crack Sealant			
Application Properties:			
Workability:	Pour readily and penetrate 0.25 inch and wider cracks for the entire application temperature range recommended by the manufacturer.		
Curing:	No tracking caused by normal traffic after 45 minutes from application.		
Asphalt Compatibility: ASTM D 5329, Section 14.	No failure in adhesion. No formation of an oily ooze at the interface between the sealant and the bituminous concrete or softening or other harmful effects on the bituminous concrete.		
Material Handling:	Follow the manufacturer's safe heating and application temperatures.		
Test Method	**Property**	**Minimum**	**Maximum**
AASHTO T 51	Ductility, modified, 1cm/min, 39.2EF (4EC), cm	30	
UDOT method 967	Cold Temperature Flexibility	no cracks	
AASHTO T 300 (a)	Force-Ductility, lb force		4
ASTM D 5329	Flow 140EF (60EC), 5 hrs 75Eangle, mm		3
ASTM D 3405 (b)	Tensile-Adhesion, modified	300%	
AASHTO T 228	Specific Gravity, 60EF (15.6EC)		1.140
ASTM D 5329	Cone Penetration, 77EF (25EC), 150 g, 5 sec., dmm		90
ASTM D 5329	Resilience, 77EF (25EC), 20 sec., percent	30	
ASTM D 4402	Viscosity, 380EF (193.3EC), SC4-27 spindle, 20 rpm, cP		2500
ASTM D 5329	Bond as per ASTM D 1190, Section 6.4		Pass

(a) Maximum of 4 lb force during the specified elongation of 30 cm @ 1 cm/min, 39.2EF (4EC).

(b) Use ASTM D 3405, Section 6.4.1. Delete bond and substitute tensile-adhesion test in accordance to D 5329.

PART 3 EXECUTION Not used

END OF SECTION

September 13, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 02748M

PRIME COAT/TACK COAT

Delete Article 2.1, Paragraph A., and replace with the following:

2.1 PRIME COAT

A. MC-70 or MC-250, meeting the requirements of Section 02745.

Delete Article 2.2, Paragraph A., and replace with the following:

2.2 TACK COAT

A. CSS-1 emulsified asphalt meeting the requirements of Section 02745.
   1. Diluted 2:1 (two parts concentrate to one part water) by the manufacturer.
      a) Dilute at terminal only.
      b) Do not change dilution without obtaining prior written approval from the Engineer.

Delete Article 3.2, and replace with the following:

3.2 APPLICATION

A. Apply at the following rates:
   1. Prime Coat: 0.5 gal/yd^2
   2. Tack Coat: 0.10 gal/ yd^2 (new pavement)
      0.15 gal/yd^2 (milled pavement)

   The above application rates may vary according to field conditions. Secure approval for the quantities, rate of application, temperatures, and areas to be treated before any application.

B. Do not apply prime coat or tack coat:
   1. On a wet surface.
   2. When the surface temperature is below 50 degrees F.

3. When weather conditions prevent it from adhering properly.

C. Protect all structures including guardrails, guide posts, etc. from being spattered or marred.

D. Use a pressure distributor to apply the asphalt in a uniform, continuous spread.

E. Keep the viscosity between 50 and 100 centistokes. AASHTO T 201.

F. Immediately apply another application to under primed surface.

G. Apply a prime or tack coat to all surfaces, including vertical that will come in contact with Hot Mix Asphalt.

H. Spread blotter material if the prime coat fails to penetrate. Use the quantities required to absorb the excess asphalt.

Supplemental Specification
2005 Standard Specification Book

SECTION 02842M

DELINEATORS

Delete Article 1.3, Paragraph C and replace with the following:

C. ASTM A 1011: Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability

Delete Article 2.1, Paragraph A and replace with the following:

A. Supply and galvanize posts as specified. ASTM A 1011, and AASHTO M 111.

Supplemental Specification
2005 Standard Specification Book

SECTION 02843

CRASH CUSHIONS

Delete Section 02843 and replace with the following:

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Furnish and install crash cushions

B. Furnish and install crash cushion markings

1.2 RELATED SECTION

A. Section 02324: Compaction

1.3 REFERENCES

A. ASTM D 4956: Standard Specification for Retroreflective Sheeting for Traffic Control

B. NCHRP Report 350: Recommended Procedures for the Safety Performance Evaluation of Highway Features

C. UDOT Guidelines for Crash Cushions and Barrier End Treatments, current edition

1.4 SUBMITTALS

A. Installer Certification.
   1. Manufacturer certified installer.
   2. Provide proof of certification prior to installation.

B. Provide a letter of certification for each system location, affirming that each system is installed according to Department's and the manufacturer's specifications.
   1. Reference Project Number and describe Station/location indicating median, left or right shoulder or gore area application.

PART 2 PRODUCTS

2.1 CRASH CUSHION

A. Select from the current approved products list, UDOT Guidelines for Crash Cushions and Barrier End Treatments.
   1. Refer to the current UDOT Guidelines for Crash Cushions and Barrier End Treatments for specific uses and requirements for each approved system type. The UDOT Guidelines for Crash Cushion and Barrier End Treatments and Barrier End Treatments is maintained by the Division of Traffic and Safety and available through the UDOT Internet home page. Refer to http://www.udot.utah.gov/index.php/m=c/tid=719.
      a. Systems tested under NCHRP-350 requirements and a letter of acceptance issued by FHWA.
      b. Supply three sets of shop drawings and installation drawings for each system type supplied.
         1) Distribute drawings to Contractor, installation contractor, and Engineer or designated representative.
   2. Refer to CC series Standard Drawings for each approved system type.

B. Types:
   1. Type A: Protect fixed hazards greater than 3 ft wide within 15 ft of traveled way, with less than 100 ft of longitudinal space in front of the hazard.
      a. Supply system(s) with an adequate width as specified in plan set.
      b. Supply system(s) as per manufacturer's requirements for design speed as specified in plan set.
         1) Supply the minimum NCHRP-350 Test Level 3 system for roadways greater than 55 MPH.
      c. Galvanize all steel parts as per manufacturer's requirements.
      d. Supply transition element, for the approach of opposing traffic, when system is installed with bi-directional traffic and the system is within 1.2 times the required minimum clear zone.
         1) Two transition elements required when system is installed with w-beam median barrier.
      e. Install system on concrete pad as per manufacturer's requirements.
      f. Supply crash cushion markings as per CC series Standard Drawings.

2. Type B: To protect fixed hazards up to 3 ft wide or less and within 15 ft of traveled way, with less than 100 ft of longitudinal space in front of the hazard.
    a. Supply system with an adequate width as specified in plan set.
    b. Supply system as per manufacturer's requirements for design speed as specified in plan set.
        1) Supply the minimum NCHRP-350 Test Level 3 system for roadways greater than 55 MPH.
    c. Galvanize all steel parts as per manufacturer's requirements.
    d. Supply transition element, for the approach of opposing traffic, when system is installed with bi-directional traffic and the system is within 1.2 times the required minimum clear zone.
        1) Two transition elements required when system is installed with w-beam median barrier.
    e. Install system on concrete pad as per manufacturer's requirements.
    f. Supply crash cushion markings as per CC series Standard Drawings.
3. Type C: To protect fixed objects 3 ft wide or less within 15 ft of traveled way, and longitudinal space in front of the hazard greater than 100 ft.
    a. Galvanize all steel parts as per manufacturer's requirements.
    b. Supply double-sided w-beam transition element when system is installed in conjunction with concrete barrier or bridge parapet.
    c. Supply crash cushion markings as per CC series Standard Drawings.
4. Type D: To protect fixed hazards within 15 ft of traveled way. Use in areas where one impact per year is anticipated or when repair history indicates two or more impacts over a three-year period.
    a. Supply system with an adequate width as specified in plan set.
    b. Supply system as per manufacturer's requirements for design speed as specified in plan set.
    c. Supply the minimum NCHRP-350 Test Level 3 system for roadways greater than 55 MPH.
    d. Galvanize all steel parts as per manufacturer's requirements.
    e. Supply transition element, for the approach of opposing traffic, when system is installed with bi-directional traffic and the system is within 1.2 times the required minimum clear zone.
        1) Two transition elements required when system is installed with w-beam median barrier.
    f. Install system on concrete pad as per manufacturer's requirements.
    g. Supply crash cushion markings as per CC series Standard Drawings.

5. Type E - Sand Barrel Arrays: To protect fixed hazards outside of 15 ft from the traveled way and there is an unlimited amount of space. Refer to the UDOT Guidelines for Crash Cushion and Barrier End Treatments for specific uses and requirements of sand barrel arrays.
    a. Design sand barrel array using Energite® III/Fitch® Universal Module Systems design manual.
    b. Certify sand barrels and components meet NCHRP-350 for nonredirective, gating crash cushions.
    c. Sand barrels will be constructed using a frangible polyethylene material, which will shatter upon impact.
        1) Use yellow sand barrels.
        2) Permanently apply manufactured date, month, and year to each piece of the barrel system.
        3) Use one or two-piece barrel construction.
        4) Interface cones with the barrel to prevent leakage of sand but allow for the drainage of excess water for sand barrel systems that use barrel and cone configuration.
        5) Provide lids for each sand barrel. Fasten lid securely to barrel.
    d. Provide sand barrels that hold the required amounts of sand as per requirements of the typical sand barrel array.
        1) 200 lbs., 400 lbs, 700 lbs., 1400 lbs, and 2100 lbs.
        2) Mark each barrel in a manner that the amount of sand required for the nominal weight is visible for systems that are designed using barrels for multiple sand weight requirements.
    e. Use dry sand to fill modules, 2 percent or less moisture.
    f. Supply crash cushion markings and construct pad as per CC series Standard Drawings.
6. Type F: Use to protect concrete barrier or bridge parapets with less than 150 ft of longitudinal space in front of the hazard. Used in a unidirectional application.
    a. Galvanize all steel parts as per manufacturer's requirements.
    b. Install system on concrete pad, when specified by manufacturer, and to the manufacturer's specifications.
    c. Supply crash cushion markings as per CC series Standard Drawings.
7. Type G: Use to protect the approach end of single face w-beam guardrail or approach ends of bridge parapet and concrete barrier with unlimited longitudinal space (greater than 125 ft) in front of the hazard in a unidirectional application, and is installed where a tangent system is desired. W-beam transition element is required when system is installed at the end of bridge parapet or the end of concrete barrier.
    a. Supply one of the approved post options as described in UDOT Guidelines for Crash Cushion and Barrier End Treatments.

b. Supply system with 12-½ ft galvanized w-beam rail elements as per manufacturer's requirements.
c. Supply manufacturer approved impact head and hardware.
d. Galvanize all steel parts as per manufacturer's requirements.
e. Supply crash cushion markings as per CC series Standard Drawings.

8. Type H: Use to protect the approach end of single face w-beam guardrail or approach end of bridge parapet and concrete barrier with unlimited longitudinal space (greater than 125 ft) in front of the hazard in a unidirectional application, and is installed where a flared system is desired. W-beam transition element is required when system is installed at the end of a bridge parapet or the end of concrete barrier.
   a. Supply one of the approved post options as described in UDOT Guidelines for Crash Cushion and Barrier End Treatments.
   b. Supply system with 12-½ ft galvanized w-beam rail elements as per to manufacturer's requirements.
   c. Supply manufacturer approved impact head or end section and hardware.
   d. Galvanize all steel parts as per manufacturer's requirements.
   e. Supply crash cushion markings as per CC series Standard Drawings.

2.2 CRASH CUSHION MARKINGS

A. Marker plate: Per CC series Standard Drawings.
   1. Construct marker plate 18 inches x 18 inches using 0.032-gage aluminum with appropriate object marker sheeting.
      a. Drill a 7/16-inch hole in each corner of plate.
      b. Use ASTM D 4956 Type III sheeting with encapsulated glass bead retroreflective material, or greater. Use appropriate sheeting type for the substrate sheeting is placed on.
      c. Use a 24 inch x 14 inch object marker plate or self-adhesive object marker sheeting ASTM D 4956 Type III sheeting with encapsulated glass bead retroreflective material, or greater for Type C systems. Use appropriate sheeting type for the substrate sheeting is placed on.
      d. Substitution of self-adhesive object marker sheeting ASTM D 4956 Type III sheeting with encapsulated glass bead retroreflective material, or greater, 18 inches x 18 inches or 24 inches x 14 inches placed directly on system for Marker Plate is acceptable.
      e. Accept object markers supplied by the manufacturer that exceed the above requirements.

B. Marker Post: Per CC series Standard Drawings
   1. Construct marker post, 60 inches long and 2 inches OD, using black polyethylene material.
      a. Close top of marker post.
      b. Drill three 7/16-inch mounting holes.
      c. Apply three 4-inch bands of yellow sheeting ASTM D 4956 Type III sheeting with encapsulated glass bead retroreflective material, or greater.

PART 3 EXECUTION

3.1 INSTALLATION

A. Prepare site to finished grade prior to installation of crash cushion or barrier end treatment.
   1. Construct approach areas and recovery areas to meet UDOT Standards and system requirements prior to installation of system.
      a. Refer to CC series Standard Drawings for system requirements.
   2. Construct concrete pad, when applicable, to meet system requirements.
      a. Use manufactures specification for concrete pad construction.
      b. Refer to CC series Standard Drawings for Type E - sand barrel detail, for pad requirements.
   3. Obtain Engineer's approval of site grading, approach and recovery areas, and layout, prior to system installation.
   4. Compact backfill material around posts and foundation tubes to minimum 96 percent of maximum laboratory density and dispose of excess material. Refer to Section 02324.

B. Install in accordance with:
   1. UDOT Guidelines for Crash Cushion and Barrier End Treatments.
   2. Manufacturer's specifications and recommendations.
   3. Use manufacturer certified installer to perform the installation.

C. Complete repair or replacement of any crash cushion damaged during construction within 24 hours of notification of damage.

1. Contractor is responsible for the cost of repair or replacement of any permanent system damaged for any reason until final acceptance.
    a. Exception:
        1) Damage is caused by an errant vehicle, AND
        2) Damage occurs after Traffic has been established in the final lane configuration with shoulders as established in the project plans.
    b. Payment will be made using a Force Account basis for the cost of repair or replacement of the damaged system when the Engineer determines the conditions described under the exception above apply.

END OF SECTION

September 02, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 02844M

CONCRETE BARRIER

Delete Article 3.3, Paragraph C., and replace with the following:

3.3 CAST-IN-PLACE CONSTANT SLOPE BARRIER

C. Fixed forms: Do not use precast mortar blocks to support the reinforcing steel. Provide a blockout (Scupper) for drainage at the locations and of the dimensions shown on the plans (See Detail Sheet DT-01). Break barrier at the joints in structures 2C-371 and 4C-371 (See plan sheets RD-26 & RD-27).

January 1, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 02926S

INVASIVE WEED CONTROL

Add Section 02926:

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Controlling the spread of noxious weeds.

1.2 DEFINITIONS

A. Noxious weeds subject to control are listed on the Utah State Noxious Weed List and the county's weed list that applies based on the project location. Refer to Article 3.3 of this Section for a list of the Utah State Noxious Weeds and the noxious weeds for each Utah county.

1.3 PAYMENT PROCEDURES

A. Include payment for cleaning earthmoving construction equipment under mobilization.

B. Pay for the control of invasive weeds using pre-emergent, selective, and non-selective herbicides by the unit area.

1.4 QUALITY ASSURANCE

A. Regulatory Requirements:
   1. Follow all regulatory, application, and safety precautions listed by the herbicide manufacturer.
   2. Apply herbicides using only state licensed pesticide applicators.

1.5 SEQUENCING

A. Clean all earth moving equipment before bring them on the project.

B. Treat existing noxious weeds 10 days before starting earthwork operations.

PART 2 PRODUCTS

2.1 HERBICIDE

A. Refer to Article 3.3 of this Section for a list of noxious weeds subject to control and the recommended herbicide for each species.

B. Use commercially available herbicides specified to control weed species identified.

PART 3 EXECUTION

3.1 PREPARATION

A. Use high-pressure water blasting or steam cleaning methods to clean all earthmoving construction equipment (scrapers, bulldozers, excavators, backhoes, trenchers) of dirt, mud and seed residue before initially entering the project.

3.2 EXAMINATION

A. Verify and locate all noxious weeds on the project. If assistance is needed for identification, contact the county weed control supervisor or UDOT's region landscape architect.

3.3 CONTROLLING INVASIVE WEEDS

A. Control invasive weeds. Use pre-emergent, selective, and non-selective herbicides as appropriate (See chart below). Apply herbicide as directed on the manufacturer's label.

B. Noxious Weed Table:

Utah State Noxious Weeds		
Common Name	Scientific Name	Herbicide
Bermudagrass*	*Cynodon dactylon*	glyphosate
Bindweed	*Convolvulus spp.*	Dicamba+2,4-d or picloram
Broad-leaved Peppergrass	*Lepidium latifolium*	metsulfuron or chlorsulforn
Canada Thistle	*Cirsioum arvense*	2,4-D, dicamba, picloram
Diffuse Knapweed	*Centaurea diffusa*	2,4-D+dicamba or picloram or clopyralid
Dyers Woad	*Isatis tinctoria*	2,4-D+dicamba or chlorsulfuron
Perennial Sorhgum spp (Johnsongrass)	*Sorghum halepense, Sorghum Almum*	glyphosate
Leafy Spurge	*Euphorbia esula*	dicamba or picloram
Medusahead	*Taeniatherum caput-medusa*	glyphosate
Musk Thistle	*Carduus nutans*	2,4-D amine, metsulfuron or picloram
Purple Loosestrife	*Lythrum salicarial*	glyphosate (Rodeo Aquatic label)
Quackgrass	*Agropyron repens*	Glyphosate
Russian Knapweed	*Centaurea repens*	Picloram or clopyralid or chlorsulfuron
Scotch Thistle	*Onopordium acanthium*	2,4-D amine, metsulfuron or picloram
Spotted Knapweed	*Centaurea maculosa*	2,4-D+dicamba, picloram or clopyralid
Squarrose Knapweed	*Centaurea squarrosa*	Picloram
Whitetop	*Cardaria spp*	2,4-D+dicamba or chlorsulfuron
Yellow Starthistle	*Centaurea solstitalis*	picloram or clopyralid
*Do not consider Bermudagrass (*Cynodon dactylon*) a noxious weed in Washington County		
County Noxious Weeds		
Cache County		
Common Name	Scientific Name	Herbicide
Goatsrue	*Galega officinalis*	2,4-D+dicamba
Poison Hemlock	*Conium maculatum*	2,4-D+dicamba
Puncture Vine	*Tribulus terrestris*	2,4-D+dicamba

Carbon County		
Common Name	Scientific Name	Herbicide
Russian Olive	*Elaeagnus angustifolia*	2,4-D, dicamba, or glyphosate
Davis County		
Common Name	Scientific Name	Herbicide
Poison Hemlock	*Conium maculatum*	2,4-D+dicamba
Buffalobur	*Solanum rostratum*	2,4-D+dicamba
Yellow Nutsedge	*Cyperus esculentus*	glyphosate
Duchesne County		
Common Name	Scientific Name	Herbicide
Russian Olive	*Elaeagnus angustifolia*	2,4-D, dicamba, or glyphosate
Grand County		
Common Name	Scientific Name	Herbicide
Purple Loosestrife	*Lythrum salicarial*	glyphosate (Rodeo Aquatic label)
Juab County		
Common Name	Scientific Name	Herbicide
Water Hemlock	*Cicuta maculata*	2,4-D, or dicamba
Kane County		
Common Name	Scientific Name	Herbicide
Poison Hemlock	*Conium maculatum*	2,4-D+dicamba
Rich County		
Common Name	Scientific Name	Herbicide
Black Henbane	*Hyoscyamus niger*	2,4-D+metsulfuron
San Juan County		
Common Name	Scientific Name	Herbicide
Silverleaf Nightshade	*Solanumk elaeagnifolium*	Imazapyr or glyphosate
Buffalobur	*Solanum rostratum*	2,4-D or dicamba
Whorled Milkweed	*Asclepias subverticillata*	2,4-D or dicamba
Sanpete County		
Common Name	Scientific Name	Herbicide
Houndstonge	*Cynoglossum officinale*	2,4-D or dicamba

Uintah County		
Common Name	Scientific Name	Herbicide
Russian Olive	*Elaeagnus angustifolia*	2,4-D, dicamba, or glyphosate
Purple Loosestrife	*Lythrum salicarial*	glyphosate (Rodeo Aquatic label)
Washington County		
Common Name	Scientific Name	Herbicide
Poison Milkweed	*Asclepias subverticillata*	2,4-D, or dicamba
Weber County		
Common Name	Scientific Name	Herbicide
Puncture Vine	*Tribulus terrestris*	2,4-D+dicamba
Use rates: Use rates for herbicides vary, follow the use rate on the LABEL for each herbicide		

END OF SECTION

September 02, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 02961M

ROTOMILLING

Add the following Paragraph to Article 3.1 PROCEDURE:

3.1 PROCEDURE

E. All material that is not securely bonded to the rotomilled surface must be removed after the rotomill operation.

February 14, 2005

SPECIAL PROVISION

***NH-STP-0201(8)0**

SECTION 02969S

OPTIONAL USE OF RECLAIMED ASPHALT PAVEMENT

Delete section 02969 in their entirety and replace with the following:

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Option to incorporate Reclaimed Asphalt Pavement (RAP) materials into hot mix asphalt pavement, dense-graded material only.

1.2 RELATED SECTIONS

A. Section 02741: Hot Mix Asphalt (HMA)

B. Section 02745: Asphalt Materials

1.3 RERERENCES

A. AASHTO M 320: Performance Graded Asphalt Binder

B. AASHTO T 164: Quantitative Extraction of Bitumen from Paving Mixtures

C. AASHTO T 170: Recovery of Asphalt from Solution by Abson Method

D. UDOT Materials Manual of Instruction

E. UDOT Minimum Sampling and Testing Guide

1.4 SUBMITTALS

A. Quality Control Plan.
   1. Submit the proportion of materials from each of the RAP stockpiles intended to be used in the project.
   2. Submit the sampling and testing plan for the project.
   3. Provide for testing, by an AMRL accredited laboratory, of the reclaimed material and the total mixture at no additional cost to the Department.
   4. Submit to the Engineer for approval.

PART 2 PRODUCTS

2.1 PG BINDER

A. Select and supply a standard AASHTO M 320 PG Binder meeting the requirements of Sections 02745 and Section 509 of the UDOT Minimum Sampling and Testing Guide: Asphalt Binder Quality Management Plan, in accordance to Table 1.

B. Perform Department Quality Assurance testing on the supplied grade of standard PG Binder in accordance to Section 509.

2.2 MIX DESIGN

A. Obtain Engineer's approval for the use of RAP in the hot mix asphalt.

B. Use up to 30 percent RAP by total weight in the hot mix asphalt, in accordance to Table 1.

C. Provide the following for each RAP Stockpile:
   1. Extracted Gradation
   2. Asphalt Content
   3. SSD Specific Gravity of Extracted RAP

D. Provide the following for the RAP Material combined in proportions for the intended production of HMA:

   1. Performance Grade of recovered asphalt binder.
      a. Use AASHTO T 164, Method E, with reagent grade Trichloroethylene, and AASHTO T 170 to recover the asphalt binder.
      b. Determine the performance grade of the recovered binder in accordance to AASHTO M 320 with the following modification:
         (1) PAV aging is not required before testing for fatigue and low temperature cracking.

E. Select the percentage of RAP by total weight in the hot mix asphalt and the standard, virgin asphalt binder grade meeting Section 02745, using Table 1:

Table 1
Binder Selection Guidelines and Total Allowable RAP for RAP Mixtures

Recovered RAP Asphalt Binder Grade	Desired RAP Percent	Recommended Virgin Asphalt Binder Grade
PGXX-22 or lower	< 20 percent	No Change in the Design Grade of the Asphalt Binder
	20 -30 percent	Select Virgin Binder one grade softer than normal (e.g. select a PG64-34 if a PG70-28 is the design grade*
PGXX-16	< 15 percent	No Change in the Design Grade of the Asphalt Binder
	15 - 25 percent	Select Virgin Binder one grade softer than normal (e.g. select a PG64-34 if a PG70-28 is the design grade*
PGXX-10 or higher	< 10 percent	No Change in the Design Grade of the Asphalt Binder
	10 - 15 percent	Select Virgin Binder one grade softer than normal (e.g. select a PG64-34 if a PG70-28 is the design grade*

* Do not select any grades lower than PG XX-34.

F. Meet all the requirements of Section 02741 and the following:
   1. Average wheel impression not to exceed 10 mm in 20,000 passes when tested in accordance with Hamburg Wheel Track Testing of Compacted Bituminous Mixtures, UDOT Materials Manual of Instruction Section 990.
      a. Provide to UDOT Central Laboratory sufficient mix to preform test. Allow ten days for results.
   2. Meet all the requirements of Aggregate Properties of Section 02741 for the virgin aggregate portion of combined virgin and RAP aggregate.

G. Complete the mix design for the combined virgin and RAP materials following Superpave volumetric mix design procedures. Use an AMRL accredited laboratory for the design.

H. Provide the following for the combined virgin and RAP materials:
   1. Gradation
   2. Asphalt content
   3. RAP content

PART 3 EXECUTION

3.1 RECLAIMED MATERIAL

A. Crush or screen the reclaimed material to be used for recycle to pass a 1-1/2 inch sieve.
   1. Construct stockpile platforms in such a way to prevent intrusion of subgrade materials into RAP.
   2. Provide adequate drainage for the stockpile site.
   3. Use separate cold feed bins for each stockpile.
   4. Use screened reclaimed material free of organic materials, soil, or other foreign substances.

END OF SECTION

Supplemental Specification
2005 Standard Specification Book

SECTION 06055M

TIMBER AND TIMBER TREATMENT

Add the following to Part 1, Article 1.2:

F. Southern Pine Inspection Bureau (SPIB) Standard Grading Rules

Delete Article 2.2, paragraph A and replace with the following:

A. Wood posts that comply with the current WWPA Standard Grading Rules or SPIB Grading Rules.

Delete Article 2.2, paragraph D and replace with the following:

D. Guardrail Post:
   1. Surfaced or rough-sawn posts and offset blocks.
   2. Use only one species of wood on any one project.
   3. Douglas Fir-Larch, Hem-Fir, Lodgepole Pine, Ponderosa Pine, or Southern Yellow Pine.
   4. Grade No. 1 or better.

August 30, 2005

SPECIAL PROVISION
*NH-STP-0201(8)0

SECTION 07105M

WATERPROOFING MEMBRANE

Replace the existing specification with the following.

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Prepare an entire top slab of box culver for waterproofing membrane.

B. Place waterproofing membrane.

1.2 RELATED SECTIONS

A. Section 02317: Structural Excavation

1.3 REFERENCES

A. ASTM C 578: Rigid, Cellular Polystyrene Thermal Insulation

B. ASTM D 5: Penetration of Bituminous Materials

C. ASTM D 36: Softening Point of Bitumen (Ring-and-Ball Apparatus)

D. ASTM D 146: Sampling and Testing Bitumen - Saturated Felts and Woven Fabrics for Roofing and Waterproofing

E. ASTM D 882: Tensile Properties of Thin Plastic Sheeting

F. ASTM D 3236: Apparent Viscosity of Hot Melt Adhesives and Coating Materials

G. ASTM E 96: Water Vapor Transmission of Materials

H. ASTM E 154: Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover

I. Vermont DOT: Low Temperature Flexibility Test

1.4 WEATHER LIMITATIONS

A. Do not work during wet conditions or when the deck or ambient air temperatures are below 50 degrees F.
B. Do not apply the membrane unless the deck is surface dry.

1.5 SCHEDULING

A. Notify the Engineer at least one week before installing the membrane.

1.6 PAYMENT

A. This work will include all activities associated with exposing the top slab of the box culvert for placement of the waterproofing membrane.

PART 2 PRODUCTS

2.1 HOT POURED POLYMER MEMBRANE

A. Characteristics:
   1. Single Component Elastomeric Material
   2. Applied hot
   3. Spreadable to uniform thickness after cooling
   4. ASTM C 578

B. Mechanical Properties:
   1. Penetration, Max: 100
   2. Pliability, at 10 degrees F: No cracks when bent 180 degrees over a 1-inch mandrel.

2.2 RUBBERIZED ASPHALT MEMBRANE

A. Characteristics:
   1. Laminate Form
   2. Heat Resistant
   3. Self-adhesive surface protected by special release paper

B. Mechanical Properties:

Property	Method	Value
Thickness, inch min.		0.065
Permeance-Perms, grains/sq ft·hr·inhg	ASTM E 96, Method B	0.10
Tensile Strength, psi	ASTM D 882, (modified for 1 inch opening)	50
Elongation, percent	ASTM D 882, (modified for 1 inch opening)	75
Puncture Resistance (Mesh), lb	ASTM E 154	200
Pliability, at -15 degrees F	ASTM D 146	No cracks in mesh or rubberized asphalt when bent 180 degrees over a 1/4 inch mandrel

2.3 PATCHING CONCRETE

A. Select from the Performance Data Products Listing (PDPL) maintained by the UDOT Research Division.

2.4 FIBERGLASS MATTING

A. Weight = 1.5 lbs/yd^2

2.5 BINDER

A. Compatible with the matting material and conforming to the following requirements:

Property	Method	Value
Penetration, 0.1 mm	ASTM D 5	40-82
Softening point, min.	ASTM D 36	155 degrees F
380 degrees F. viscosity, cps	ASTM D 3236	1000 - 1800
Low temperature flexibility, max.	Vermont DOT (modified)	0 degrees F

PART 3 EXECUTION

3.1 PREPARATION

A. Remove existing cover material to expose the top slab and top section of the walls to facilitate the installation of the waterproofing membrane.

B. Concrete slab:
   1. Sandblast to remove asphalt and all other foreign material from the entire deck, approach slabs and sides of the parapet for a height of 4 inches above the concrete deck.
   2. Vacuum or use compressed air to remove all dust and loose material from the deck.
   3. Remove all sharp ridges and projections that could puncture the membrane.
   4. Patch holes or spalled areas in the concrete deck with patching concrete to provide a flat deck surface.

C. Asphalt Surface: When membrane will be placed on an asphalt surface, apply a 1/2 inch layer of Hot Mix Asphalt as shown on the plans to provide a flat deck surface.

D. Joints and Cracks: Bond a 12 inch wide strip of woven fiberglass reinforcing to the deck over cracks and joints greater than 3/16 inch wide using a compatible binder.

3.2 APPLY MEMBRANE

A. Use either hot poured polymer membrane or rubberized asphalt membrane.

B. Hot pour polymer membrane: Follow manufacturer's recommendations for application temperatures, equipment, and procedures.
   1. Primer: Apply primer according to the instructions of the membrane manufacturer, if required.
   2. Application Rate: Apply at a uniform rate to yield a minimum membrane thickness of 3/32 inch.
   3. Vertical Surfaces: Apply the membrane on existing vertical surfaces and curb faces to a height 1 inch above that required for the asphalt surfacing overlay without splattering.
   4. Defects: Repair membrane that exhibits pin holes surface blisters, crazing or cracking after cooling.
   5. Protection: Protect the membrane from damage by using asphalt roofing felt (30 lbs/200 sq ft) when asphalt surfacing is not placed within four hours of placing waterproofing membrane. Observe the following characteristics and procedures when using the asphalt roofing felt:
      a. Cover entire surface and lay dust side up.
      b. Lay parallel to the centerline of the roadway with a minimum overlap of 4 inches between adjoining sections.
      c. Bond overlap with suitable mastic or cement.
      d. Place free of wrinkles, bubbles or other defects. Repair any placement defects.

6. Traffic: Allow only necessary rubber tire vehicles on the membrane system.
    a. Do not allow public traffic.
    b. Maintain the roofing material in good condition until covered with pavement.
7. Preparation for overlaying: Do not use a tack or prime coat on the top surface of the asphalt rolled roofing.

C. Rubberized Asphalt Membrane: Follow membrane manufacturer's recommendations for application temperatures, equipment, and procedures.
1. Primer: Use primer furnished by the manufacturer of membrane material. Apply primer to all surfaces to be covered by the membrane according to the manufacturer's recommended procedure and application rate.
2. Placement: Overlap prefabricated membrane strips a minimum of 4 inches. Place joints such that a shingling effect will be achieved in which water will drain effectively.
3. Bonding: Use hand rollers or other satisfactory pressure apparatus on the membrane to assure firm and uniform contact with the primed surfaces. If necessary to assure a good seal at joints, an adhesive may be required or use a wide tipped torch to cause tackiness.
4. Placement: Place the membrane on the vertical face of the concrete curb to the height of the finished overlay surfacing.
5. Defects: Protect the entire membrane from developing wrinkles, air bubbles, or other placement defects. Patch any torn or cut areas and narrow overlaps using a satisfactory adhesive and a piece of membrane. Extend the patch at least 4 inches beyond any defect. Bond the patch firmly to the surface.
6. Traffic: Allow only necessary rubber tire vehicles on the membrane. Do not allow public traffic. Maintain the membrane in good condition until covered with pavement.
7. Preparation for Overlaying: If required by the membrane manufacturer, apply a bond coat of an acceptable adhesive to the surface of the membrane.

3.3 GRANULAR BACKFILL

A. Place required granular backfill after the membrane has cured according to manufacturer's recommendations. Deposit, spread, and roll backfill material so the membrane will not be damaged.

END OF SECTION